THE
# Genesee Farmer.
THE PRACTICAL AND SCIENTIFIC FARMERS OWN PAPER.

VOL. XX, SECOND SERIES. ROCHESTER, N. Y., JUNE, 1859. No. 6.

## "PROGRESSIVE ULTIMATES."

THE editor of the *Working Farmer* has for some time been promulgating the doctrine that the crude elements of plants are of little or no value as manure. They must first be taken up by plants, and organized, before they become of any manurial value; and the oftener they have been taken up by plants—the oftener they have formed parts of the living organism of plants or animals—the more valuable they become. An atom of potash, fresh from the hands of its Creator, in the virgin soil of Eden, was entirely useless as plant-food.

This is a most remarkable doctrine; and one, if true, of great practical importance. The evidence on which it rests we have been unable to discover. It is quite true that the potash in feldspar is not as valuable for manure as the potash of wood ashes; but is not this owing to the fact that plants can take up their food only in solution, and that the potash in feldspar is comparatively insoluble, while that in wood ashes is readily soluble? Is not an atom of ammonia formed during a thunder storm, from the nitrogen of the atmosphere, of just as much value as manure as an atom formed by the decay of animal matter?

But we need not speculate. The originator of this hypothesis states that its truth may be established by the following test: Take the *mineral* phosphate of Estramadura, and *bone* phosphate. Dissolve portions of each in dilute muriatic acid, so that each portion shall be in solution. Apply them respectively to the soil, and it will be found that the dissolved phosphates from bones will fertilize plants and be readily assimilable by them, while the dissolved *mineral* phosphate *will produce no effect at all.*

Now it so happens that this very test has been made—and that, too, with the very "phosphate of Estramadura" alluded to. Dr. DAUBENY and Capt. WELLINGTON brought over to England, from Estramadura in Spain, some of the very *apatite* or mineral phosphate which, according to the *Working Farmer*, will "produce no effect at all" as a manure for plants. It was sent to Mr. LAWES' experimental farm at Rothamsted, and there used on turnips side by side with phosphates obtained from bones, with the following results:

1. A plot without any manure produced 2 tons 4 cwt. of turnip bulbs per acre.
2. With 3 cwt. of ground apatite or mineral phosphate, 3 tons 1 cwt.
3. With 3 cwt. of superphosphate of lime (made from calcined *bones*) and 15 lbs. phosphate of ammonia, 6 tons 6¼ cwt.
4. With 3 cwt. of superphosphate of lime made from ground apatite, 6 tons 15¾ cwt.
5. With 374 lbs. of superphosphate made from apatite or mineral phosphate, 7 tons 8¾ cwt.
6. With 560 lbs. of superphosphate of lime made from calcined *bones*, 7 tons 14¾ cwt.

It will be seen that the superphosphate made from the apatite or mineral phosphate, so far from "producing no effect at all," was quite as beneficial as that made from bones.

These experiments, which are perfectly reliable, show the utter absurdity of this doctrine of "progressive ultimates." Plants feed on unorganized matter. Substances which are only partially organized—such as urea, in fresh liquid excrements—are injurious. Fresh blood in solution will kill plants. But if these substances are allowed to ferment and become crude inorganic matter, they are very beneficial. That the individual atoms have been in any way changed by being organized, we have not a particle of evidence. Lichens and mosses may grow on a soil which would not support a wheat plant. By their decay in the soil they may furnish food for some plant of a higher organization; and these in their turn may furnish food for clover; and this, by being plowed in, may furnish food for wheat: and thus, in the course of years, a soil which would not produce wheat may be rendered capable of doing so. But to account for this, it is not necessary to assume that the elements which were first taken up by the lichens are in any respect different from the same elements which are taken up by the wheat. The soil did not contain a sufficient quantity of these elements

in an assimilable condition for the wheat plant, but sufficient for lichens and mosses. These collected the sparse elements of the soil, and left them in a more concentrated form. And so of the other plants which follow; the oxygen of the atmosphere, carbonic acid, ammonia, &c., disintegrating and decomposing the soil, and rendering the insoluble food of plants which it contains more and more soluble, till in time there is a sufficient quantity for the higher order of plants.

## SUMMER FALLOWS FOR WHEAT.

Fallowing is one of the most ancient methods of restoring fertility to impoverished soils. The Hebrew law commanded that the land should rest every seventh year; and though of a figurative nature, it was probably connected with the practical requirement of the early system of agriculture. Hesiod, the Greek poet-farmer who flourished in the tenth century B. C., and who cultivated a soil which he describes as "bad in winter, hard in summer, and never good," (probably a stiff clay,) recommends fallowing, the land being plowed three times—once in the autumn, again in the spring, and then immediately before sowing. Among the Romans, fallowing was a universal practice—in most cases a crop and a year's fallow succeeding each other. The land was first plowed after the crop was removed, generally in August; it was again cross-plowed in the spring, and at least a third time before sowing, whether spring grain or winter wheat was the crop. There was, however, no end to the number of plowings and sarclings, the object being, as Theophrastus observes, "to let the earth feel the cold of winter and the sun of summer, to invert the soil, and render it free, light, and clear of weeds, so that it can more easily afford nourishment."

The Romans introduced the system of fallowing into England, where it has been pursued since the invasion. It would appear, however, that the practice did not extend to Scotland till the earlier part of the eighteenth century. John Walker, of Beanston, East Lothian, is supposed to have been the first person who ever systematically attempted to fallow land in Scotland. He had to endure, for a time, the ridicule and contempt of his neighbors, who jestingly concluded that he was either insane for allowing a portion of his land to lie waste for a whole year, or so poverty-stricken as to be unable to find seed to sow it with. The practice, however, was so successful, that twenty years after, summer-fallowing had become nearly general throughout East Lothian. "Many," says John Haxton, of Fife, "are old enough to remember the wonderful improvement effected in Scotland through the introduction of the bare fallow system. Previously, the land was cropped repeatedly with grain, until it ceased to produce enough to pay for seed, labor and rent. It was then allowed to remain in grass until the operation of natural causes had, in some degree, repaired the former damage it had sustained, when it was again broken up, and the same scourging process renewed. Upon such a system, the introduction of fallowing operated like a charm."

In the mean time, turnip-culture was introduced with remarkable success on the light soils of Norfolk; and a controversy on the subject of substituting the growing of turnips for bare fallowing agitated the writing and reading portion of the agricultural public of Great Britain during the latter end of the last century, and ultimately a tacit compromise resulted, which left the turnip growers in complete possession of the light soils, and the summer fallow advocates in possession only of the heavier and undrained clays; while the drier and less stubborn clay loams formed a sort of debatable ground, upon which occasional pen-and-ink encounters took place between the two parties, until practical experiment proved the point in favor of turnip growers.

There can be no doubt that in the moist, cool climate of the British Isles, turnip-culture is more profitable than bare fallows on all well-underdrained soils, except the heaviest and most tenacious clays.

In this country, where the climate is not so well adapted to the cultivation of turnips, and where meat is not so high, the case may be, and we believe is, very different.

The lamented Judge Buel, and other eminent agricultural writers, reflected the opinions of their brethren across the Atlantic. They extolled turnip-culture, and condemned summer fallows; and it is not difficult to trace the influence of their writings in forming the now very generally received opinion that summer fallows are, at best, a necessary evil. There is some truth in this opinion, but we are inclined to believe that the benefits of summer-fallowing are not sufficiently understood and appreciated.

On light soils, there is little necessity for summer fallows. We should endeavor to keep the land clean by the introduction of hoed crops, without the use of bare fallows, and try to enrich it by the growth of such plants as enrich rather than impoverish the soil, and then feed them to cattle and

sheep, and endeavor to make as much rich manure as possible.

But on heavier soils—such as form, under good culture, our best and most permanent wheat lands—we can not dispense with the use of summer fallows. We will hazard an opinion, which will, perhaps, astonish some of our readers, but for which we can offer some good reasons: that on a well-underdrained, properly-cultivated clayey loam, there is very little actual increase of fertilizing matter added to the soil by growing and plowing in any crop—even a heavy crop of our highly-prized clover. All the mineral matter it contains was in the soil before, and the matter which the crop has obtained from rain and dew would have been retained by the soil, if in proper condition. The only increase, then, would be in the gases which the plants attracted from the atmosphere. The bulk of this is carbonic acid—of which, for wheat, most soils have an abundance. How much of ammonia is attracted from the atmosphere by the best of renovating plants, such as clover, it is difficult to estimate, but from all that we know on the subject, we think it probable that it is not more than a well-stirred, loamy soil would attract. That many kinds of clayey soils have the power of attracting ammonia from the atmosphere there can be no doubt, and that one of the advantages of summer fallows is attributable to this fact is equally certain.

Our wheat growers, on heavy soils, must pay more attention to summer fallows. We are aware that fallows *add nothing* to the soil, except ammonia, from the atmosphere. They simply render available the stores of plant-food locked up in the soil. But why should they not be rendered available, and useful? Is not this better than letting them lie dormant? They are the farmer's capital, and the more he can keep in circulation the better.

We have great hopes that some cheaper and more effectual method will be devised of breaking up and pulverizing clay soils, than by the common plow, cultivator and harrow. We must make the steam enigne, that "giant with one idea," do, at a single operation, what we can now accomplish only by repeated plowings, harrowings, &c.

With our cold winters, and hot, dry summers, we can attain the object of summer-fallowing more easily than in Great Britain. What will our readers say to the following remarks from that recent and most excellent British authority, Morton's *Cyclopedia of Agriculture*? "At present, four plowings, including the stubble and seed furrows, complete the process; but were the true objects of a naked fallow kept in view, the clay land farmer should never rest satisfied that he has worked his land properly, unless six, or at least five, plowings have been given during the process."

The same authority says that the heavier clay soils in Essex "frequently receive *eight*, and never less than six, clean plowings, with three horses abreast each time. The land is also scarified with four horses between the plowings."

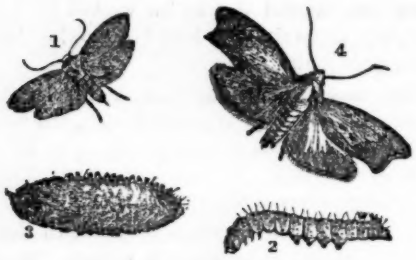
In the Carse of Gowrie, it is considered that a summer fallow, to be properly worked, "should receive six furrows, ten double tines of the harrows, four rollings, and two grubbings."

As we have said before, land can be cleaned of weeds and rendered mellow here with less labor than in England; but we would submit the question for consideration, whether we have not somewhat abused these advantages? Whether we do not content ourselves with summer fallows for wheat, which are unworthy the name? Of late years, the majority of summer fallows, in this section, are plowed but once. The sod is broken in June, and the surface afterwards cleaned and pulverized by the use of the cultivator and harrows. The surface is often very loose and mellow, but the great mass of the soil is not exposed to the meliorating influences of the air and sun. Would it not be better to plow the land oftener, and leave it rougher? The heat of the sun has great influence in bringing about those chemical changes in the soil which it is one of the objects of summer fallows to induce. The direct rays of the sun give out no heat—the reflected rays alone give out heat. When the sun shines on a cloddy field, the clods reflect the heat radiated from each other, and in this way a high degree of temperature is obtained. A writer in the *London Farmer's Magazine*, for 1815, states that a cloddy, clay soil was found to be heated to 120°; and in our hotter climate, a much higher heat might be obtained, which would contribute materially to the destruction of insects and their eggs, as well as promote disintegration of the earthy and alkaline silicates, and the decomposition of vegetable matter.

This subject is one of vast importance to American wheat growers. We have merely thrown out a few hints for consideration, and shall be glad if some of our experienced correspondents will give us their views.

---

Is Plaster beneficial on Wet Land.—Boussingault addressed this question to the farmers of France. There were ten answers, *all in the negative.*




THE BEE MOTH.

There are two species of this insect—*Galleria alveria*, the Honey Moth, (fig. 1,) the maggots of which feed upon the honey, and which is more generally known in Europe than here, and *Galleria ceranea*, the Honeycomb Moth, (fig. 4,) which is well known as the greatest enemy the American bee-keeper has to contend with. In its adult state it is a winged moth, measuring from the head to the tip of its closed wings from five-eighths to three-fourths of an inch, and its wings expand from one and one-tenth to one and four-tenths inches. The male is of a dusty gray color; the female is much larger, and darker colored than the male. There are two broods in the year. Some moths of the first brood make their appearance towards the end of April, or early in May. Those of the second brood are most abundant in August. By day they remain quiet on the sides, or in the crevices, of the bee-house; but, if disturbed at this time, they open their wings and fly quickly away, so that it is difficult to seize them. In the evening, they take wing when the bees are at rest, and hover round the hive, till, finding the entrance, they go in and lay their eggs. Those that are prevented from entering the house by the bees, or any other cause, lay their eggs on the outside, or on the stand, and the little, worm-like caterpillars (fig. 2) hatched therefrom easily find their way into the hive through the cracks, or gnaw a passage for themselves under the edge of it. These caterpillars, at first, are not thicker than a thread, and have sixteen legs; their bodies are soft and tender, and of a yellowish-white color. Weak as they are, and unprovided with any natural means of defence, they are taught, by instinct, how to shield themselves against the vengeance of the bees, and pass safely and unseen in every direction through the waxen cells, which they break down and destroy. Beeswax is their only food, and they prefer old to new comb. As soon as they are hatched they begin to spin, and each one makes for itself a tough, silken tube through the waxen cells, wherein it can easily turn round, and move backwards and forwards at pleasure. During the day they remain concealed in their silken tubes, but at night, when the bees can not see them, they come partly out, and devour the wax within their reach. As they increase in size, they lengthen and enlarge their dwellings, and cover them over with a coating of grains of wax, mixed with their own castings. Protected by this coating from the stings of the bees, they work their way through the combs, gnaw them to pieces, and fill the hive with their filthy webs, till at last the discouraged bees are compelled to abandon their perishing broods and wasted stores, and leave their desolated hive to the presence of the spoilers. These caterpillars grow to an inch or more in length, and come to their full size in about three weeks. They then spin oval cocoons, (fig. 3,) change into pupa in them, and these are often found clustered together in great numbers in the top of the hive.

Strong and healthy swarms, provided with a constant supply of food near the house, are less liable to suffer from the moth than small and weak ones, as the bees are then better able to guard the entrance of the hive against the moth. There are several ways mentioned by writers on bees of getting rid of this pest of the hive. But the most convenient, and least troublesome, perhaps, is to place shallow vessels containing water, mixed with vinegar and sweetened with honey or molasses, near the entrance of the hive. Early in the evening, as soon as the bees are gone to rest, is the time. A light may be placed near by, to attract them, and, as they are fond of sweets, numbers will be found drowned in the vessels.

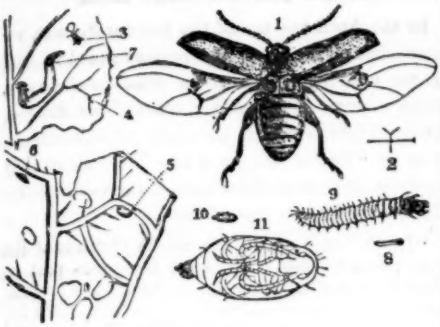
---

Agriculture in Ohio.—The editor of the *Ohio Cultivator* disproves the truth of the oft-repeated assertion that the "wheat crop of Ohio has fallen off one-half." He shows from statistics that, for the last four years, "the wheat crop has been tending upwards, and this, too, in the face of its insect enemies, before unknown, and also in the face of the fact that while the early settlers occupied only the best lands, the later fields have been made from the second and third-rate lands, which reduces the average per acre, without involving the farmer in the censure of mismanagement."

The same is true of the corn crop, and of live stock. The agriculture of the State has improved, rather than deteriorated.

---

Cotton Seed gives 33 per cent. of oil suitable for machinery. The oil-cake remaining is nearly equal to linseed-cake for fattening stock, or for manure.



THE TURNIP FLY.

One of the greatest drawbacks to the cultivation of the turnip is the fly, or, more properly, the beetle, (*Altica nemorum*,) which devours the young leaves of the plants. It is too familiarly known to need a minute description, but we give a cut illustrating its various stages of development, which may be of interest.

Fig. 1 is the fly greatly magnified — the cross lines at fig. 2 indicating the natural dimensions, as well as fig. 3, where one is represented feeding on the leaf. It is shiny black, minutely punctured, with two yellow stripes down the wing cases, the hinder legs formed for leaping. The female deposits her eggs on the under side of the rough leaf, (fig. 4 — 5 magnified.) The laying continues as long as the rough leaf appears, and the eggs hatch out in a week or ten days, when the young grub pierces the skin under the leaf, and begins eating the pulp, and the spot becomes visible by a brownish appearance, (fig. 6.) It continues moving in a tortuous direction till it reaches the mid-rib, (fig. 7,) by which time it is full grown, (fig. 8 — 9 magnified.) It then eats through and falls to the ground, to become a pupa, just under the surface, (fig. 10 — 11 magnified.)

From their migrating against the wind, it seems they are directed in their course by scent. It is, therefore, not often that the turnip beetles are bred in the fields on which they commit their ravages; and as they swarm in every meadow and fence from April to October, and hybernate or hide themselves in the winter, a piece of turnips comparatively free from them, may, by attracting swarms from the surrounding country, be overrun with them in a few hours.

It is difficult to suggest any remedy against the attacks of the turnip fly. The great point is to give the plants a rapid growth, by having the soil rich and very fine. Superphosphate of lime, sown *with the seed* in the drills, has a magical effect on the young turnip plants, pushing them forward so rapidly that the fly has no time to do them much injury. Another remedy is, to sow plenty of seed — from one to three pounds per acre — and thin out after the turnips get into the rough leaf. We have known as much as five pounds per acre sown in England, in order, if possible, to have enough plants to satisfy these voracious destroyers. Another remedy, which has been resorted to with considerable success, is founded on the fact that the fly prefers the leaves of radishes to those of turnips. If a little radish seed is sown with the turnip seed, the fly will eat the radishes and let the turnips alone. Dusting the plants with ashes, lime or soot, while the dew is on, is sometimes useful in checking the ravages of the fly.

## PRAIRIE FARMING IN AMERICA.

Such is the title of a new work just published in London by James Caird, M. P. — the well-known Agricultural Commissioner of the *London Times*. Mr. C. is a Scotch farmer, a close observer, and a pleasing writer. He visited this country last fall, for the purpose, principally, of examining the lands of the Illinois Central Railroad, in which, we believe, he is somewhat interested — and it may be well to take his opinion of the fertility and value of these lands with some caution. A few extracts from the work will be read with interest.

At Niagara Falls he met a Scotchman who had been thirty years in this country. "Oh, man," said he, "they're meeserable farmers. It would break your heart to see how they just scart the grun'. It's no very guid, ony way, but they dinna gie't a chance."

He was much impressed with the growth of Chicago. "Nothing," he says, "can illustrate more forcibly the vast natural abundance and resources of this splendid country, than the history of the grain trade of Chicago. An Indian village in 1820, this place has become a great city, with upwards of 120,000 people, with wharves and granaries for miles along the river canal which opens into Lake Michigan, and with streets, public buildings, churches and private dwellings that may vie with those of London itself. And Chicago is actually the center of more miles of railway completed and in operation than London. In 1837, its export amounted to about 100 bushels of grain; and in 1857, upwards of 18,000,000 bushels. Chicago and all its wealth, are, in fact, a property created by the profits arising in the mere transference from hand to hand of the surplus produce of but a small part of this wonderful country. This surplus, great

though it is, is capable of being increased tenfold, as only one-tenth of the fertile lands of this State are believed to be yet brought under cultivation."

Of the prairie farms, he says: "Some corn [grain] fields are of uncommon magnitude. One vast sweep of 2,200 acres was all in new-sown wheat, a sparkling sheet of verdure in the morning sun. The towns, most of which are not four years old, are growing rapidly. There is a plan of going 'shares,' in which a prudent farm-laborer meets with great success. He has a farm given to him to cultivate, fenced and broken up and seeded; he performs the rest of the labor and carries on the farm, and pays his rent by delivering at the nearest station the half of the crop."

The pioneer of a settlement on the prairie, owning 2,500 acres, after telling him his history, and adverting to the failure of the crops in 1858 having disheartened the farmers, concludes with: "But personally he had no apprehension, as he had the utmost confidence in the natural fertility of the soil, which he did not believe could be exhausted."

He called on a dairy farmer from the Eastern States, and says: "He has a dairy stock of thirty-eight cows, and makes his milk into cheese. He can sell his cheese on the spot at 42s. a cwt., [about eight cents a pound,] which is not far short of the average price realized by dairy farmers in Scotland, where the rent is higher than the price of land in Illinois. He finds the natural prairie grass very productive of milk till September. His cows yield him two pounds of cheese each, daily, during the period of good grass, and they can be foddered very cheaply during the winter on prairie hay."

He says: "The same sum which would be needed to start one son as a farmer on another man's high-rented land in England, would start three sons as the owners of farms, fenced, stocked and under crops, on the fine prairies of Illinois."

---

CEMENT FOR ROOFS, INCOMBUSTIBLE WASH, &c.—In answer to the inquiry of O. P., I would say: Slack stone lime in a large tub, or barrel, with boiling water, covering the tub to keep in the steam. When thus slacked, pass it through a fine sieve. Now, to six quarts of this lime add one quart of rock salt, and one gallon of water; boil the mixture, and skim it clean. To every five gallons of this mixture, add one pound of alum, half a pound of copperas, and, by slow degrees, three-fourths of a pound of potash, and four quarts of fine sand. This mixture will now admit of any coloring matter you choose, and may be applied with a brush. It looks better than paint, is as durable as slate, and will stop small leaks in roofs, rendering them incombustible. When laid upon brick work, it renders the brick impervious to rain or wet.—L. DAVIS.

## LUPINS FOR ENRICHING LAND.

IN the April number of the *Genesee Farmer*, we gave a cut of the lupin, and recommended its trial on the poor light soils of the Atlantic slope as a green manure. The London *Mark Lane Express*, for April 25th, contains an article on this subject, from an "English farmer in Belgium," which fully confirms all that we have said of the value of this plant. We make a few extracts:

"In Germany, there are whole districts of the very poorest sands. For some few years past on these soils the agriculturists, or rather the proprietors on these miserable lands, have been much impressed with the immense advantages to be derived from the "*Yellow Lupin*," as a green crop to be plowed in. It is so effective that, where it has been followed up, as in Pomerania, Saxony and Brandenbourg, those estates, which before were worthless, now produce splendid crops of rye and lupins, without any manure being employed but that which arises from these crops.

"It is not a high-growing plant, but very leafy, and branches much; consequently it may be drilled thinly at eighteen inches, and hoed or not, as you please. It is a sort of bean with a spotted skin, sown in the spring at the rate of two bushels per acre, and plowed in when in full flower. The ground may be then sown again with it, and that crop also buried. I should say after the first frost; but in Germany they sow it after harvest, and turn it down in the spring for rye or oats, and have thus obtained a white crop and this 'manure' crop for three or four years together on the same land!

"If it would stand our winters, it is just what we want to occupy our stubbles from harvest to February, and it is well worth trying. There are many gentlemen in the north of Germany who grow as many as one hundred and twenty to two hundred acres of this plant annually, as the farms run large. They grow it for corn, and also occasionally cut it for hay. The grain ripens in August; but it is difficult to harvest, because the plant itself is so succulent, and the pods do not all ripen at the same time. It is mown in swaths, and, after laying a few days, is set up in single sheaves, as we do sometimes our beans, with a bean-stalk twisted round near the top of the sheaf, the lower part standing out like an umbrella. Another difficulty is, the pods are so liable to open, and shed the grain. But there are ways to meet all this. One man made small stacks of it, with alternate layers of oat-straw; it heated a little, gave the oat-straw a flavor, and dried itself without injuring the grain.

"It might be made into long stacks of only two sheaves in width, and the height of long poles set in the ground on each side, at intervals of a dozen yards, to keep them up. I have seen this done with the cammeline oil plant; but I can not see why the French plan of round shocks of a dozen sheaves with three-hood sheaves should not answer, and so let them remain out some weeks, till thereby dry, and then carted home in wagons, with old tilts at the bottom to catch the shed lupins.

"Another man had it half thrashed in the field lads going round and giving each sheaf half a dozen knocks with a stick, and shocking them. This is

a good plan, as the pods dry so long before the juicy stalks.

"The feeding property of the grain is about the same as common beans.

"It likes *deep cultivation*. The land is never 'sick' of it, and where grown annually as manure, for some six or seven years, it has turned the soil a dark color, from the quantity of decayed matter deposited.

"If mown for hay, in full flower, it is considered quite as nutritive as clover; but I should doubt that. It should always be mixed in the (long) stack with layers of straw. April would be the time for sowing it, and thicker than if intended to produce grain. It has grown two tons of hay per acre. It is good for all animals, but cows must not be allowed too much of it, or it will give a taste to the milk. On soils that suit it, (and any will do except chalk,) it will grow a yard high, deeply plowed and subsoiled.

"If sown to be folded off by sheep, tares must be mixed with it, and they will then readily eat it; but not so well if sown alone.

"The above is sufficient to give an idea of its cultivation and use. But I should think its greatest value to us would be as a green crop, to be sown after harvest *on all soils*, and plowed in as manure; or on our poorest lands, as a means of making them worth cultivation, and which are now almost worthless. For this purpose, the first two years it should be sown twice a year; after which, the four crops having been turned in the soil, we might expect it to be in a sufficiently productive state to be cultivated in that course the owner may think the best. Perhaps that would be to lay it down for sheep-feeding, as it is stated a small farmer in the village of Dusenan, having for some few years plowed in his lupins in full flower in the spring, and then sowed rye, he found the field began to be covered with a wild white clover—it was a white sand, and had been turned quite dark from the quantity of humus left in the soil."

## NOTES FOR THE MONTH—BY S. W.

The Coming Crops and the Future Prosperity of the West.—I say West, because here in ever-blessed Western New York the crops are good, with at least one-third more corn in little Seneca than was ever grown here in any one season before, and farmers generally are *easy*. But there can be no doubt that the short crops of last year, throughout the great fast West, was a dispensation necessary to bring back the people to those habits of industry and self-denial which had given way to that fictitious pecuniary prosperity which preceded the revulsion of last year and the panic of the preceding autumn. Yet if ever the infliction of a short crop could be borne philosophically, it was perhaps last year, when there was no foreign demand to raise prices on the poor. Had the crops of 1858 been above the average, freights from Lake Michigan to the seaboard, instead of falling off 50 or more per cent., would have risen after harvest to the close of navigation at least 50 per cent., and this spring—instead of falling below remuneration by water, and at a serious loss by rail—old rates at least would have been sustained. Then, in the absence of all shipping demand for Europe, prices in the seaports must have fallen so low as to leave but little margin for the farmer. But now, with a prospect of good crops at the West, such is the competition created for western freights by the Pennsylvania, Baltimore, and the two New York railroads, that the great products of the West are to be taken from Chicago to New York at fabulously low rates, and by the Lakes and the Erie canal, freight must fall by the aid of reduced toll, steam, and the enlarged canal, to a rate lower than has yet been dreamed of. Again, a war in Europe is almost certain, which cannot fail to make a demand for all our agricultural surplus, cotton almost alone excepted. Added to this, the increased manufactures in our own country are rapidly appreciating and extending, making a home demand for western products, before which our exports of provisions and breadstuff now sink into insignificance. Even this little town, once a milling village on the Seneca outlet, that sent its hundred thousand barrels of choice flour to New York annually, now buys wheat and flour from the West for its own support. But to say nothing of other industries here, we have a phœnix from the ashes of the Waterloo flouring-mills, in the form of a woolen mill, that at this time employs over three hundred operatives, male and female, to whom more than $5000 monthly is paid for wages. Then about $150,000 is annually paid to the farmers of this region and farther west for fine wool. The operatives of this mill now eat only the flour made from the best western white wheat, as this county, once the first on the file for wheat, now, with here and there an individual exception, grows only the poor Mediterranean variety, and very little of that.

Harrowing in Rotten Manure for the Wheat Crop.—After that truly matchless farmer, John Johnston, not only insists on this mode of manuring as the most manure-saving and effective, and the experimental veteran editor of the *Genesee Farmer* gives a *quasi* approval to the theory, it is perhaps bootless for me to say that manure is more economically employed as a permanent amendment when plowed in, and none of those large lumps noticed by Mr. J. are to be seen above the surface of the prepared fallow. Yet there is no doubt that if manure can be well rotted without being washed or fire-fanged of its ammonia, it is the best immediate food for growing crops, and when harrowed into the wheat fallow, it will produce a more quickening effect on the incipient plants than it would if plowed under the surface. But I would respectfully ask, is it as permanent an amendment to the subsoil?—will it not, like Peruvian guano, be exhausted by the present crop, and what is hardly less important, has the soil below the surface been mechanically benefitted by the surface dressing?

To show how much more permanently amending green stall manure is to a clay soil like Mr. Johnston's, when plowed in deeply, than when applied to its surface in a semi-rotten state, I here give the result of my own experiment, which is none the less significant for being on a small scale. As long as I placed my manure on the surface and spaded it in, I found the stiff clay below, although underdrained, entirely unchanged mechanically; hence to make it pulverulent and absorbent, I began trenching in the fall, two spades deep, filling the

trenches one-third full of green manure in the winter, from the stable, coal ashes, &c. The result was, that after the second year's trenching and manuring, there was no more compact drab clay to be found within twenty inches of the surface: all had changed to a friable, chocolate colored loam; and what is better, instead of a continual need of top-dressing every year, it will bring as good crops of corn, beets, &c., year after year, without manure, as that part of the garden that is heavily surface-manured every year.

In the hot, dry summer of 1854, when every farmer's corn-leaves rolled and almost burned up, and the crop was short from drouth, I had a larger growth of sweet corn and Lima beans than ever before. True, the corn-leaves rolled a little in the daytime, but they again expanded at dewy eve, and received the full benefit of the heavy nightly dews, which was denied to the unexpanded, sun-burned leaf. This success was alone due to frequent hoeings, and the influence of long green manure trenched in deeply the fall and winter before. It is true that top-dressing is nature's lavish plan of manuring, and it may be often profitably followed; but if we only reflect how many of the cereals and leguminosæ have been improved by man's culture, may we not also presume to improve on nature's economy in manuring, as well as in culture?—the more especially as such action is expressly in accordance with the divine decree that man shall live by the sweat of his face.

THE GENESEE FARMER AND ITS SECOND PREMIUMS.—At Fredonia, that primitive gas-lit village of rich, grazing Chautauque, the agent of the *Farmer* takes $20, the highest premium for the largest number of April subscribers; J. D. PALMER, of Thurlow, Canada West, takes $19 for the next largest number. It may be a poser to a part of the editorial fraternity, how JOSEPH HARRIS is enabled to give so good a monthly of practical and original matter, unscissored, for the trifling sum of 37½ cents per annum, and pay such cash premiums to his local agents. But the fact is that these premiums stimulate the agents to labor with and stir up the obtuse mind of the rural community, to battle with their prejudices, and to conciliate their egotism, so far as to induce a single 37½ cent investment in book farming; and when once in for it, the paper soon becomes a household necessity, never thereafter to be dispensed with. Mr. HARRIS has the advantage of being to the manor born, and what is better, he is so much in love with his profession as a scientific and practical farmer, that the soil, and its capabilities of production under proper manuring and culture, is his constant study—making no other use of his early scientific training at LAWES' experimental farm at Rothamsted, England, than to adapt his experience there to the soil and climate of our country. His very instructive experiments on the culture of our king of cereals, Indian corn, have been detailed in the *Farmer* and in the *Transactions of the N. Y. State Agricultural Society*. For his outlay and pains-taking he was rewarded by the State premium of $75, about one-third the amount it cost. What a pity that a portion of the thousands uselessly squandered by the patent office could not be applied to such practical purposes.

*Waterloo, May 11, 1858.*

## TIMOTHY GRASS, AND THE BEST TIME FOR CUTTING IT.

THIS grass, (*Phleum pratense,*) so universally known and highly valued by American agriculturists, was originally introduced into the country by TIMOTHY HANSON, of Maryland, from whom it derives its name. It is known as catstail in England, and herdsgrass in the New England States. It is also a favorite grass in Sweden, where it is extensively cultivated. It is a perennial, bulbous-rooted plant; the leaves are broader than those of most other grasses, and rough, with long sheaths. In the early stages of its growth, it resembles a diminutive plant of Indian corn; stalk long and jointed, surmounted when mature by a long, hairy spikelet containing the seed.

The first year after sowing the seed, the young plants consist of single bulbs, scattered over the surface of the ground at considerable intervals, and rarely blossoming. In the spring of the second year the plant throws out a number of new bulbs, in a similar manner to the potato onion, as shown in our illustration. These blossom and

ROOTS OF TIMOTHY.

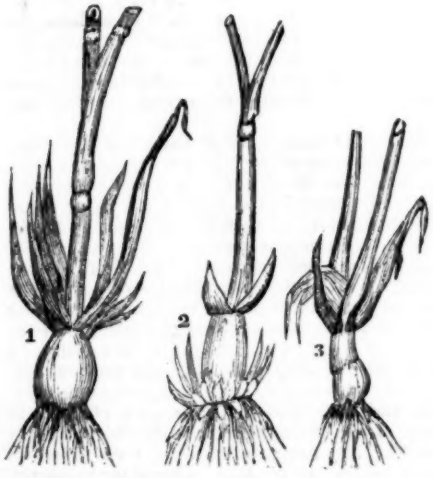
A, original seedling bulb, now dead. B, B, &c., bulbs sprung from A, and forming a stool of plants round it.

produce seed, but very unequally. Each succeeding plant throws out others again the following spring, till after three or four years we find that the original single bulb is surrounded by a large circular stool of plants, several inches in diameter. We counted seventy-six bulbs in one stool, supposed to be three years from the seed. The plants at this age are in their prime, and produce the heaviest crops of hay. Two years after the plant has thrown out the new bulbs and given them a fair start, it shrinks up and dies, the bulb still remaining in the stool, but becoming hard and horny. If, during the early stages of its growth in the spring, while the new bulbs are forming, the plant is cut, or eaten close by animals, the bulb either dies, or carries on a struggling existence through the summer; the young bulbs are not properly developed, and the vital powers of the whole stool of plants becomes so exhausted that the dry weather of autumn or the frosts of winter soon kill them.

As a meadow grass to cut for hay, timothy is unsurpassed by any other grass now cultivated. It possesses a large amount of nutritious matter, in comparison with other natural grasses. It has been a general practice among farmers to grow timothy along with clover; but the clover blossoms two weeks earlier, and the practice is now being discontinued, except where the large, or late variety of clover can be obtained.

Considerable discussion has been going on of late, among agriculturists, as to the proper time for cutting timothy for hay. Most farmers prefer to cut it when it is full blown, and say that it is sweeter and contains more nourishment at this time. Others, again, believe that if the mowing is performed before the seed is fully developed, the plant will run out, from a failure to re-seed the ground. Dr. KIRTLAND, of Cleveland, Ohio, states that an intelligent practical farmer of his neighborhood, Mr. RICHARD MCCRARY, after many careful observations on the growth of timothy, has arrived at the following propositions, which he illustrates with specimens: —

"1. Timothy grass is a perennial plant, which renews itself by an annual formation of "bulbs," or, perhaps more correctly speaking, tubers, in which all the vitality of the plant is concentrated during winter, (fig. 1.) These form, in whatever locality




the plant is found, without reference to dryness or moisture. From these, proceed the stalks which support the leaves and head, and from the same source spread out the numerous fibres forming the true roots.

2. To insure a perfect development of these tubers, a certain amount of nutrition must be assimilated in the leaves, and returned to the base of the plant through the stalk.

3. As soon as this process of nutrition is completed, it becomes manifest by the appearance of a state of desiccation, or dryness, always commencing above either the first or second joint of the stem, near the crown of the tuber. From this point, the desiccation gradually progresses upwards, and the last portion of the stalk that yields up its freshness is that adjoining the head. Co-incident with the beginning of this process is the full development of the seed, and with its progress they mature. Its earliest appearance is evidence that both the tubers and seeds have received the requisite supplies of nutrition, and that neither the stalks nor the leaves are longer necessary to aid them in completing their maturity.

4. If the stalk be cut from the tuber before this evidence of maturity has appeared, the necessary supplies of nutrition will be arrested; their proper growth will cease, and an effort will be made to repair the injury, by sending out small lateral tubers, from which weak and unhealthy stalks will proceed, at the expense of the original tubers, (fig. 2.) All will ultimately perish, either by the drouth of autumn or the cold of winter.

5. The tubers, together with one or two of the lower joints of the stalk, remain fresh and green during the winter, if left to take their natural course; but if, by any means, this green portion be severed at any time of the year, the result will be the death of the plant, (fig. 3.)

From these five propositions, the following conclusions are drawn: —

1. That timothy grass cannot, under any circumstances, be adapted for pasture, as the close nipping of horses and sheep is fatal to the tubers, which are also extensively destroyed by swine.

2. That the proper period for mowing timothy is at any time after the process of desiccation has commenced on the stalk, as noticed in proposition 3. It is not very essential whether it is performed a week earlier or later, provided that evidence of maturity has become manifest.

3. All attempts at close shaving the sward should be avoided while using the scythe, and, in gauging mowing machines, care should be taken to set them to run so high that they will not cut the timothy below the second joint above the tuber."

Any farmer can satisfy himself as to the correctness of these representations, by a little observation in his own fields; and as the point is one of importance, it is worthy of careful attention.

If cut just after coming into bloom, it no doubt makes the most eatable hay for stock, but gives less weight per acre than if cut later, besides the risk of destroying the vitality of the plants for succeeding crops. Early cutting also renders it liable to be killed by drouth. If cut when fully ripe, it gives a much larger quantity of hay per acre, but hard and wiry, containing more condensed nutriment, and requiring to be cut up fine to enable horses or other stock to eat it properly. If allowed to ripen, its seed is a very exhausting crop to the soil. The best time to cut timothy would probably be, as soon as the seeds are fully formed, but before they begin to ripen. But as it is the latest of our grasses, and comes to the proper stage for cutting just about the commencement of the wheat harvest, many farmers have either no patience to wait till then, or they put off mowing their timothy till the wheat is secured,—in either case greatly to their own injury. Now that mowing machines and horse rakes are becoming plentiful and cheap, the work of hay-making can be expeditiously done, without interfering with other crops. Timothy, especially if grown by itself and cut with a machine when nearly ripe, requires but little more to

be done to make it into hay, in this dry climate, than to be raked up in the evening and put into large cocks, and carried to the barn next day, or as soon as convenient. If a few pounds of salt are thrown on each load as it is spread in the mow, all the acidity remaining in the hay will be corrected, and fermentation prevented. If clover is mixed with the timothy in a proportion not exceeding one-half, let the former wait till the latter is sufficiently mature; if the clover preponderates, the crop should be cut as soon as the clover is ready. Timothy has the disadvantage of being but a slow grower, after it has completed its maturity and commenced a second growth, which consists of leaves only; consequently it gives but little aftermath. It is then very nutritious, and keeps its greenness and vitality till late in the autumn, and may at that time be pastured by stock without injury to the plants.

In our dry, hot climate, farmers generally leave their grass, after cutting, too long exposed to the sun, and it then becomes dried up so that its best properties are evaporated. It is a far better plan to cure the hay by putting it in cocks the evening of the day it is cut, if the weather is dry and the grass is mature, and letting it remain so for a day or two, or until it can be drawn to the barn or stack at leisure, taking care that it is not left to be exposed to a passing shower, should one be apprehended. J. M.

## CULTIVATION OF TURNIPS.

Messrs. Editors:—There is no kind of fodder of which so much can be raised on an acre of ground as turnips, carrots, or mangel wurzels, and none so well calculated to keep stock in a healthy, growing condition, through our long severe winters. The moisture of the roots seems to give them an appetite for coarse and dry fodder, which they would otherwise scarcely eat, and certainly not keep fat on, as they do where a moderate allowance of turnips is given to them daily.

In 1857, my crop of turnips, (ruta baga or purple-top Swede,) occupying an acre and three-quarters, stood second in competing for the county prize. Soil a sandy loam, rather gravelly. The mode of cultivation was as follows: Millet stubble plowed in the fall of 1856; plowed again May 22, 1857; and again June 14. Harrowed well after the two last plowings. On the 19th June, commenced making drills, with a plow, 30 inches apart; and continued, as the weather permitted, from day to day; manuring in the drills, with horse and cart, at the rate of 40 cart loads per acre of farm-yard manure of the previous winter. The drills were then split in the center by the plow, throwing the earth neatly over the manure, thus bringing the crown of the drill, on which the seed is sown, directly over the manure. The seed was sown at the rate of one and a half pounds per acre, with Murdoch's Turnip Drill, which has a heavy roller before and a light one behind the coulter which forms the furrow for the seed. About twenty drills only were made at once, and then manured and covered, to prevent the manure evaporating by exposure. The seed was then sown on the drills while the earth was fresh and moist. The drilling, manuring, and sowing, took six and a half days, with a man and horse, and a boy to lead the horse when drawing the drill barrow. Finished by the 1st of July. Commenced hoeing and thinning the plants to 12 inches apart in the rows on the 17th of July, and continued from day to day, when the weather interrupted the hay-making, and in the mornings till the dew was off the hay—altogether about twenty days' work hoeing, and one day afterwards with a drill cultivator, which was run through them later in the season, when the weeds began to come up again. The taking up and storing was equal to eighteen and a half days' work. The yield of turnips averaged 735 bushels to the acre, weighing 65 lbs. per bushel—equal to 21 tons.

In most seasons, the drill cultivator can be run through the turnips before the hand-hoeing is done; but the season of 1857 was so moist that the turnips grew faster than the weeds, and the thinning had to be commenced unusually early.

There was not a weed to be seen in the field when the crop was taken up, and the ground was thus in fine order for the succeeding crop, which was spring wheat. J. MACKELCAN, M. D.

*Ancaster, C. W., Feb'y, 1859.*

## FACTS ABOUT MOWING MACHINES.

Eds. Genesee Farmer:—In the volume for 1858, on page 210, after noticing the articles of E. A. Bundy and others, you say, "let us have the facts," about the value of reaping and mowing machines. If you see fit to open the question for discussion in the present volume, I should like to give a few facts which have fallen under my observation.

Mr. Bundy seems to labor under the impression that a mower or reaper will not cut, on the average, more than six acres per day; and he thinks a heavy bill for repairs is necessary. Being somewhat inclined to egotism, I will begin by stating my own individual experience. My usual rate of mowing is one acre per hour. I can do this in hot weather, and let my team stand still part of the time. I usually employ one hand, and by mowing one hour before breakfast, and two after, I have as much hay down as we can get in in one day. I get in one day what was mown the previous day. If the weather is threatening, we go into the cornfield, and hoe. Not having a gang of hands to board, I am comparatively independent of the weather; and having a machine, I can afford to wait for good hay weather. One of my neighbors, who cuts about 100 acres annually, says that one hour is longer than is necessary to cut one acre. Since he bought his machine, he has cut about 600 acres of grass, and has paid out just $1 for repairs! Of course he is a careful man, but this is not an unusual case. I have used the machine three years, and have paid out $1.50 for repairs, entirely for breakages caused by mowing stony meadows. There are some thirty or forty machines of the kind I use, (Ketchum's patent,) in use in this town and the adjoining one, and the total extras sold by the agent here, the past summer, amounted to a little over $43,—of which full two-thirds was for the addition of the recent improvements to old machines. R. L. Howard, the manufacturer of the Ketchum machine, offered four or five premiums the past season for the best mowing and reap-

ing done by that machine, and elicited the following facts:—

H. LATHROP cut 75 acres of grass, averaging 3 tons per acre, in 80 hours, and 60 acres of grain in 47 hours: no expense for repairs. D. COX cut 113 acres grass in 58 hours, at a cost of $1,08 for repairs. J. G. LELAND cut 50 acres of grass in 50 hours — 80 cents for repairs, and 72 acres of grain in 50 hours — no repairs. C. P. IRWIN cut 60 acres of grass, averaging 2¼ tons per acre, in 46 hours: no repairs. Another cut 50 acres of grass, averaging 2 tons, in 43¾ hours, at a cost of 10 cents for repairs. Another cut 1 acre in 20 minutes. These all are verified by affidavits of the surveyors and others, besides the men themselves. A man who lives just east of here, told me that he cut 3 acres of grass in 70 minutes, including stoppages to oil, &c.

I might continue, almost *ad infinitum*, but I think I have given facts enough to satisfy Mr. HARRIS, or even Mr. GADGRIND himself. I once tried the experiment of mowing five acres of lodged clover by hand, and five acres with a machine, with the following result: —

| | |
|---|---|
| Two men, 6 days each, and board, $1.25 per day, | $15 00 |
| Mowing machine, (½ day,) @2½ cts. per acre, | 3 12½ |
| Difference, | $11 87½ |

I had no machine at that time, and had to pay the above rates for mowing. The next year we had a machine of our own.

Your "itemizer," S. W., thinks the mowing machine will not be profitable for small farmers. One of my neighbors, who cuts about 20 acres annually, has a machine, and does all his haying himself, in this way: — There are some who, like our friend BUNDY, do not see the economy of buying a mowing machine at $110, but sometimes they get cramped, and hire a machine. Neighbor S. mows for all such, at the rate of two acres for a day's work, in return. He usually cuts five or six acres in a half day, and gets 2½ or three days' work in payment: thus doing without any other hired help. I cut 36 acres of grass last summer, and 8 acres of grain, and hired 19 days help, doing the rest with my machine, after the fashion of my neighbor.

*Westfield, N. Y.* D. A. A. NICHOLS.

## NOTES FROM MAINE.

WE of this latitude are at present deep into the mysteries of farming—making every line draw—utterly regardless of wet or dry, old or new moons; for if we don't sow we can't expect to reap; and it behooves us of this land of fickle climate and short seasons to be up and doing. However, we can't grumble this season, for we have experienced first rate weather so far, and an early spring, if the expression be allowed. That venerable individual, the oldest inhabitant, can scarcely recollect one more favored. The first week of May was almost equal to midsummer. All of the earlier trees and shrubs were in leaf on the 10th inst.—some by the 6th. The buds of fruit trees are just bursting. The fruit principally cultivated hereabouts is the apple, of which fair crops are obtained. Its greatest enemy is the borer, which yearly commits great havoc among the trees. The principal varieties cultivated are the *Baldwin* and *Roxbury Russett*, winter; and *Frye* and *Sops of Wine*, summer. The *Frye* is peculiar to this section, and is a very early and desirable fruit. Of Plums, but few are raised, the winter of 1856–57 having almost totally destroyed the trees. Cherries struggle hard against the black-knot; but those who take proper care of their trees, generally obtain a fair supply.

Of the small fruits we generally have a plentiful supply in their seasons. Of gooseberries, the *Houghton* is most prized, and is beginning to be extensively grown. Some English varieties are cultivated to a limited extent. Strawberries, raspberries and blackberries are quite plentiful in their natural state. They are picked and sold in this city, in their season, at the following prices:—Strawberries, from 12 to 18 cents per quart; raspberries, at 5 and 8 cents per quart, and blackberries at 10 and 14 cents per quart. Blackberries are becoming more scarce yearly, and some persons are planting the native and the improved varieties also. Of peaches and pears, particularly the former, the specimens are "few and far between." Of currants, most every one has a hedge or row, and that is about all you can say about it.

I find that the following is the way to grow nice large currants, even of our common red varieties: Select a good, thrifty shoot, of one or at most two years growth. If you can not obtain one with roots, take it without; cut the end smoothly, near a bud if convenient; then force the shoot into the earth three or four inches. After it has rooted firmly, and is growing finely, rub off all buds and suckers except two or three at the top, which allow to grow and form a head, thus making a miniature tree. If your ground is rich, in two years you will raise currants worth calling fruit.

*Belfast, Maine, May* 18, 1859. GEO. E. BRACKETT.

## TO DESTROY POISON SUMAC.

MESSRS. EDITORS: — Poison sumac I used to handle with impunity, but lately it sometimes pays me pretty dear for my impudence. The best way to destroy it, is to grub it out by the roots, as we do our oak grubs here. Now don't be alarmed, for this poison sumac can be tamed. Having a piece of swamp on the back part of my farm, with much sumac in it, which I wanted to convert into meadow, I went to work determined to conquer it. In the winter, when the ground was frozen and without snow, I took a sharp axe and cut around the root below the stool, took it out with a ball of muck with it, and piled them up the same as any brush. It poisoned me some at first, but I rubbed on some spirits of camphor and kept to work; after a few days it did not affect me at all. It does not poison as easily in cold weather as in warm. I have some that has been grubbed out in this way two years, and not a sprout has started.

To prevent getting poisoned last August, having occasion to cut some brush with sumac amongst it, I cut off the footstalk of a leaf, chewed it, and swallowed the juice, then cut and piled the sumac with the rest, without getting poisoned at all. To cure the poisonous effects of the sumac, I take some byronia in solution, once every 15 minutes: in two hours time I feel quite easy. Byronia is said to be almost a specific for it.

*Battle Creek, Mich.* J. A. ROBINSON.

## DISEASES AMONG CATTLE.

Upon the practice of boring the horns, cutting off the tails, and similar remedies for diseased animals, Dr. G. H. Dadd, veterinary surgeon, Boston, Mass., thus writes to the *Valley Farmer:*—

"I wonder that intelligent men, christians, and men who have been, for many years, the owners of high priced and rare specimens of what we are pleased to term the *inferior* orders of creation, should so far disregard the feelings and claims which the latter have on them, as to permit the barbarities of by-gone days to be enacted over again, for no earthly use than to harass and torment a sick, and perhaps dying animal. For every intelligent man must be aware that cattle are as susceptible to pain as ourselves, and that the introduction of a *spike gimlet*, at the base of the horn, *low down*, must put the animal to an immense amount of torment; for in the region indicated, the parts are highly organized and very sensitive. It gives me pleasure to find that you have a heart to feel for these much abused specimens of creative power, and also, that you have the manliness to denounce the practice of cruelty to animals, although it attempts to shield itself under the garb of science, but you and your readers may rest assured that all *educated* veterinary surgeons consider the practice of boring cow's horns and cutting off their tails, both cruel and unnecessary. Some of your readers may ask, How are we, who have not studied into the matter, to know that such operations are *cruel* and *unnecessary?* I answer, appeal to your own intelligence; would you suffer an ignorant pretender or a neighbor, having no more experience in the treatment of disease than yourselves, to send a *gimlet* into the frontal sinuses of your sick friend, wife, or child, for no other reason than that the region of the same was hot and feverish? Where is the man who would stand by and witness such an outrageous procedure? Some persons may contend that animals recover after such operations have been performed. Granted, but that is no proof of the efficacy of the same; the recuperative powers of the system are often strong enough to bear the animal safely through the disease and the wretched treatment."

## PLANS FOR BARNS, &c.

Eds. Genesee Farmer:—I would like to see some more plans for barns in the *Genesee Farmer*—something cheaper and suitable for a 50 acre farm. I have tried to contrive something very cheap and very convenient, but have not yet arrived at any satisfactory result. In providing shelter for cattle, I would prefer a large covered shed to stables, provided they were not too numerous to interfere ungraciously with each other's feeding; or if they were tied up to feed, I would loose them to sleep. As to the construction of a shed, I suppose nothing could be cheaper than a lean-to to a barn, which would form one side; the opposite one I would leave open, closing the two ends, and providing along them racks and mangers. The advantages would be, the stock would have air and exercise; they *would deposit their manure under* cover, which, with waste straw and refuse bedding from the horses, &c., would provide a much warmer bed than a plank or earthern floor, even if well littered; the pigs would also prefer it to a sty, and would not only add to the manure heap, but improve it by mixing. Manure so made would heat and ferment, and be ready for use the same spring, instead of being then a frozen heap of snow, dung, and undecomposed straw; or it might be drawn and spread upon the land, or built into a heap in the summer fallow, ready for use, during sleighing time. Spread upon meadows, the melting snows would wash it into the roots of the grass. Or if the summer fallow were distant from the barn yard, there would be an advantage in hauling it out on the sleigh in winter, instead of the wagon in summer.

Some months since there were discussions in the *Farmer* as to the best or any practicable method of fixing the ammonia arising from the dung hill. I have thought perhaps a volatile acid was the best means of fixing a volatile alkali, and that, in this wooded country, nothing else would be so good and so cheap as pyroligneous acid. The crude acid, with the emphyreumatic flavor, might be better than pure acid, as the smell, if sufficiently durable, might prevent the attacks of the Wheat midge, or other insects, many insects being very susceptible of annoyance to their olfactory nerves. J. G. S.

*Innisfil, C. W., May, 1859.*

## ROAD MAKING.

Eds. Genesee Farmer:—I read, with much interest, several communications in your May number, on the manner in which roads should be worked and improved. I am of the opinion that the present system which regulates our road work is very good, only be careful to place the direction of each district's work in a good, thorough, faithful man's hands. I think that the inhabitants of each road district are more competent to judge of where and how the road work should be performed than any one single man can be, who might be appointed by the town. There are so many different kinds of soils in this county, that it would be a difficult matter for any man little acquainted with them to judge as correctly when and how to work either, as those who constantly travel over them.

The importance of making our roads up in a more passable condition, is becoming day by day more apparent. Our country is improving, and our farmers are improving and cultivating their farms to much better advantage, in clearing out the gullies of their logs and trash, and cleaning the briar lots of their briars, thistles, and noxious weeds, and with this march of improvement in farming, spring up a pride in the breast of farmers with reference to the road which passes by and through their farms, and they go at them, in the same good, wholesome spirit, to make them good by their own manual labor, that they would any cash-paying task on their farms. And let me here add that the inhabitants of this town, the last year performed, and returned done, more labor than was assessed for them to do, thereby showing an interest in the improvement of the roads of this town which is certainly commendable. Labor should invariably be performed by the 20th of June, and as much earlier as practicable. Then the

work has ample time to settle and become hard, and will not generally rut up in the Fall; and as to steep hills, or moderate descents, long experience will best dictate how to manage. It is to the interest of every farmer to have a good road by his house, and in order to have one, we must put hand to the plow with right good will, and the thing is done.

E. J. WILCOX.

*Arkwright, Chautauque Co., N. Y. May, 1859.*

## CULTURE OF INDIAN CORN.

The grand points in the culture of corn, are good ground, deeply and thoroughly plowed and well prepared, seasonable and careful planting, early and thorough cultivation and hoeing, and eradication of weeds and grass until the crop is grown.

I have succeeded, some four or five times, in raising from *eighty to one hundred and two bushels of shelled corn per acre, by measure*, in a region where thirty bushels is probably a full average crop. My course has been to break a sward, say about seven or eight inches deep, or to highly manure and thoroughly plow other land; prepare well, and plant in good season — that is, when I think the weather is such as to produce quick germination. As soon as the corn is sufficiently large to see the rows, we commence with the cultivator and hand-hoe, loosen the surface and clean the hills of weeds, and carefully place a small quantity of loose mold around the stalks; after which we endeavor to keep the surface loose and clean during the season, particularly keeping the hill clean, and occasionally adding a little fresh loose mold. E. H.

*Berlin, Ohio, May, 1859.*

Answers to some of the Inquiries of J. S., in the April No.—Ewes should breed at two years old. The ordinary breed of sheep will do very well until six years old. A good buck will serve fifty ewes. The best way to manage that business, is not to let him run with the ewes, but keep him in an adjoining field; put a ridgling with the ewes, by which you can know when they are in season; then turn them to the buck, one at a time. In this way, he will serve one hundred ewes. The Durhams are not so tender, but any breed of cattle will degenerate if care is not taken in breeding; but the Short-Horns can be got as large at three years old as the natives can at five. Then suppose they do take a little more feed — there is a much quicker return. Heifers should not breed until four years old. It is an advantage, no doubt, to breed from large cows, but I should not like the bulls to be very small, as the progeny is apt to bear the greatest resemblance to the male parent. A little boiled flax seed given to a cow once a day for three weeks before calving, prevents any difficulty in cleaning. I have known cows to take the bull in fifteen days after calving. Some go as many months. They generally return in three weeks. —J. *N. Nassagawega, C. W.*

Train Horses to Walk.—The *Michigan Farmer* well observes: "A plow-horse should above all things be a good walker. The walking gait is not cultivated enough in training horses. Only consider what a team that could walk four miles an hour for ten hours per day, could do towards hurrying forward spring work."

## ON KEEPING HENS TO PRODUCE EGGS IN WINTER.

Mr. Wilson says that the person who expects his hens to lay much in summer, after laying all winter, will be disappointed. This is quite different from my experience, as my fowls lay winter and summer. When they shed their feathers, they generally stop laying for two or three weeks; but the rest of the time they always lay, except when sitting or trying to sit. For winter quarters, they have a house, filled in next the outside with buckwheat straw, about a foot thick, all around and above, and free access to the barn and stables. They always have lime in some shape, where they can get at it. But perhaps my better success is owing in part to the breeds of fowls that I keep. I have the White Dorkings, and a breed of large Asiatic fowls called the Javas. They are of a glossy, greenish black color, and are heavier than any other fowls I have ever met with. They take less feed than the common fowls to make a pound of flesh, and lay eggs which will average about six to the pound; and I have succeeded in getting a higher price for them than others obtained, on account of their being so much larger. Through the sitting season, we always can sell all we can spare at a higher price for sitting. M. E. TANNER.

Sugar Cane.—On the 6th of June last year, we planted about three acres of Chinese Sugar Cane, some two or three days after which a very heavy rain fell, which washed out a great portion of the seed, and so baked the ground that not more than one-tenth of it germinated. We, however, cultivated what stood, and manufactured it into syrup in the fall, making about three hundred gallons, (or one hundred per acre,) which we retailed at six shillings per gallon, having sold all but a few gallons, which we kept for our own use.

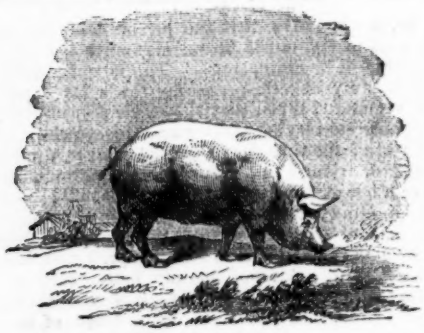
We crushed the cane on one of Messrs. Hedges, Free & Co.'s (of Cincinnati,) cast iron sugar mills, —on which, besides crushing our own, we crushed about six thousand gallons of juice for our neighbors—sufficient to make about one thousand gallons of syrup. We boiled in common cast iron kettles, placed on a brick furnace in such a manner that we could remove them at pleasure. Sometimes we used lime to neutralize the acidity of the juice, and sometimes we used nothing. We always filtered or strained the juice, and thoroughly skimmed while boiling.—E. H., *Holmes Co., O.*

A Cheap Paint.—*For Outside Work.*—One bushel of unslaked lime. Slake with cold water. When slaked, add 20 pounds of Spanish whiting, 17 pounds of salt, 12 of sugar. Strain through a wire sieve, and it is fit for use after reducing with cold water. It may be laid on with a white-wash brush.

*For Inside Walls.*—One bushel unslaked lime, 3 pounds of sugar, 5 pounds of salt, and prepare as above.

To color these paints straw color, use yellow ochre, instead of whiting; lemon color, ochre and chrome yellow; lead and slate, lampblack; blue, indigo; green, chrome green.

Cistern Cement.—Two parts ashes, three of clay, and one of sand, mixed with linseed oil.



THE HOG—ITS HISTORY, &c.

All the varieties of the hog originate in the Wild Boar, which is considered the parent of the domestic hog. It is found in most of the temperate regions of Europe, Asia, and Africa.

In England and Scotland, a few centuries since, the wild boar chase was a sport in great repute with the nobles. Shakspeare describes it with graphic accuracy. And if in those countries men are now better employed, the sport has now become obsolete. It is still practiced in India, and in those districts of Europe in which the animal maintains his hold. He is now common in the extensive forests of France, Germany, Prussia, and Hungary, as well as in Spain and some other countries.

The hog does not appear to have been indiginous to our country, but was brought hither by the early voyagers from the old world, each bringing them from their own country; and in the Eastern States especially it is said a few of the breeds still retain traces of the old English character. From its nature and habits, the hog was the most useful and profitable of all animals bred by the early settlers. It was their surest resource during the first years of toil and hardship. It arrived earlier at maturity, required less care, sought out for the most part its own food, was the least subject to accidents and diseases in a new situation, and therefore best repaid any portion of attention bestowed on breeding and rearing it.

Until within a few years, very little attention has been paid to the breeds of our farm stock; and hogs, being considered an inferior species of domestic animals, have been the last to engage the attention of the farmer; and even at the present day, in many districts of our country, the old, unprofitable kinds of this animal continue to prevail. Indeed, systematic breeding, with a view to improve the form and value of the animal, may be said to have hardly commenced among us, the improvements which are perceptible being rather the fruits of European than American skill.

A common error, in this country, has been to regard more the size of the animal than its symmetry or good points—to estimate a breed according to the great weight which it could be made to attain, rather than the profit with which it would be fitted to the hands of the butcher—the most material point to the farmer. But experience is teaching us a new lesson on this head. Butchers now judge of an animal accorning to the good points, or most valuable meat, which it carries. Breeders have learned to prefer those which with a given quantity of food will lay on the most meat. And the consumer has learned, too, that meat that shows the most solid fat, is neither the most healthy, the most savory, nor the most economical. It is the due admixture of fat and lean, or the prevalence of what is termed "fat lean"—such as is seen in the Devonshire ox and the South-Down sheep—that gives the greatest value to the butcher's meat.

We are perfectly satisfied, from long experience, that the best and most profitable breed of swine for the farmer, is that breed which will nearly mature at eight to twelve months old; and then weigh, when well fatted and dressed, from 250 to 300 lbs. A pig that has to be wintered and kept till sixteen to eighteen months old before fatted, rarely pays for itself, at the ordinary price of pork; and the average weight of these, in the United States, even at a year and a half old, we do not believe exceed 300 lbs.

We never liked the long-legged, slab-sided, lop-eared, razor-backed grunters, except for the race-course, for the reason that they eat too much food to keep them in "good working order." For porkers, give us the short-legged, small-boned, round-bodied, compact, quiet, contented, hearty pig, with sufficient good sense to know when he has eaten enough, and when to go and lie down to be rubbed or curried; and, withal, a hog with a remarkably good disposition;—in short, a hog—such an one as is figured at the head of this article—*a real, genuine Suffolk.*

The Suffolk is a hearty, quiet, and thrifty breed. They grow rapidly, are docile, contented, and good looking. They are white, well formed, compact, short-legged, hardy animals, equal in point of value to the best. By crossing with the coarser and slower growing sort, they will much improve the latter.

In our cities and villages, an immense amount of pork is consumed in a fresh state; and for this purpose, small hogs are much better adapted than large ones. They shou ld be small-boned, not over fat, but meaty, plump, fine-grained pigs, weighing, when dressed, from fifty to one hundred pounds. It is of great consequence, also, that they should be varieties which give good-flavored or well-tasted meat. There is a vast difference in swine, in this respect, though some persons will not acknowledge it. For the above purpose, the Suffolk is undoubtedly *the* hog.

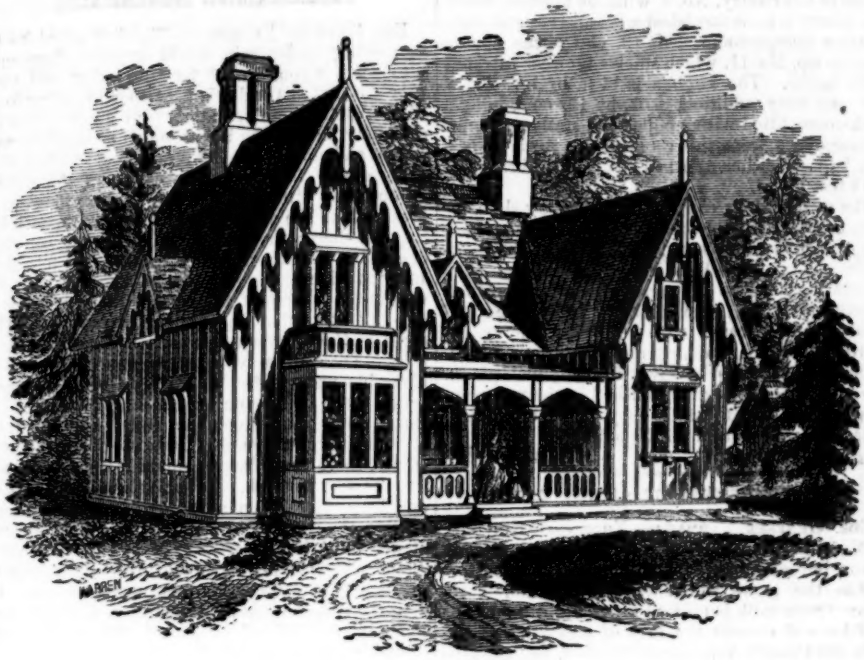
In order to get pigs to weigh well, they must come early. February, in the Southern; March, in the Middle; and April, in the Northern States; are the best months to drop pigs. Feed them, from the start, all they will eat; and they will be ready to kill in November and December. Thus you will dispense with wintering any except those reserved for breeding.

The animal whose portrait is figured above, was bred by M. Vasbar, Esq., Springside, near Poughkeepsie, N. Y., and sold to Hon. Edwin R. Brown, Mount Hope, Miss., and to which was awarded the first prize for the best sow of any breed shown at the State Fair of Mississippi, in November last. She was of the pure Suffolk breed.

*Springside, N. Y., May*, 1859. C. N. BEMENT.

---

It may sometimes be economy to buy manure; but, as a general rule, only to get the land in heart to grow manure.

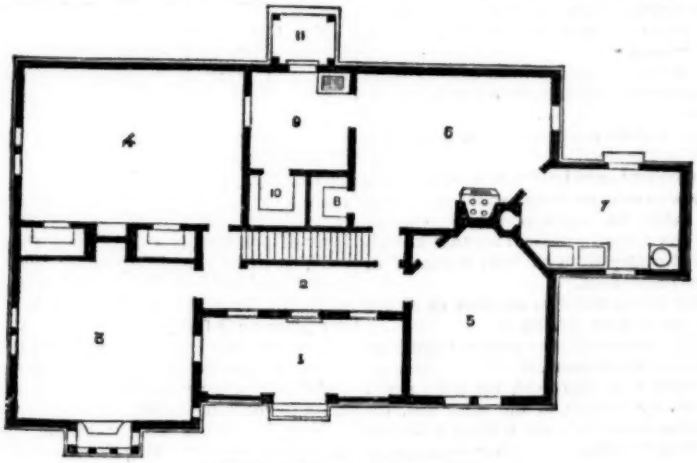


DESIGN FOR A COUNTRY RESIDENCE.

## DESIGN FOR A COUNTRY RESIDENCE.

For a situation away from the city, where the owner is not restricted to a four-rod lot, but whose estate is measured by the acre, we think the accompanying a very appropriate design. We offer a dwelling, the leading features of which are of the rural gothic style, characterized by the verge-boards, pointed arches of the veranda and porch, lattice-windows, and the general prevalence of modified gothic features.

The following is the description of the plan:—No. 1, veranda; No. 2, hall, containing stairs to the chambers, with a private, enclosed staircase




GROUND PLAN OF THE ABOVE DESIGN.

under these, leading to the cellar. Opening from the hall, No. 3, is the parlor, 15 ft. by 16, in the front of which is a bay-window, which may be furnished with a cushioned seat. No. 4, living-room, 14 ft. by 21, containing a large closet on each side of the chimney-breast, and communicating by

means of the pantry, No. 9, with the kitchen, No. 6. The pantry is to be furnished with shelves and sink, contains a store-room, No. 10, and opens upon a small stoop, No. 11, which shields the rear entrance to the house. The kitchen is 14 ft. by 18. No. 7 is a one-story addition, 9 ft. by 15, containing a wash-room, fitted with a boiler and stationary tubs. A door opens from this room to the yard. No. 5 may be used either as a bed-room or a library; it is 13 feet by 15.

The second story contains four good-sized chambers, besides dressing-rooms, closets, a bath-room, &c. Height of first story, 10 ft.; do. of 2d, 8½ ft.

CONSTRUCTION.—This is a frame house. The outside covering to be vertical weather-boarding, of uniform width; the joints to be tongued and grooved and covered with battens. The verge-boards, window and door trimmings, and other ornamental details, to be sawn from 3½-inch plank. The interior is to be plain finished in the two principal stories, and the attic may be left unfinished, if desired. Cost from $2800 to $3000.

*Lynn, Mass.* G. E. HARNEY.

## "MANAGEMENT OF CALVES, &c."

EDS. GENESEE FARMER:—Your correspondent, J. N., "thinks little" of my manner of feeding calves, but goes on with a long criticism upon it.

Was the game worth the ammunition? He says: "Sour milk is no feed for calves."

If he will consult the lists of premiums of the Jefferson County Agricultural Society, he can there find what it *has* done for me; and if he will "call around" next September, I will show him what it *is* doing this season.

If he had "thought" more of his subject, he would not have committed the error of saying that a calf was more "stupid" at two days old than at two minutes. Any "old woman" could have told him better.

J. N. thinks "sour milk might do for drink for a calf at three or four months old." Would he recommend a young farmer to give a calf his "belly full" of new milk, and then give him a pailful of sour milk, just for "drink?"

Which would be the most "trouble," to build temporary stanchions to feed in, or to feed in a common trough, and stand by at every meal, with a club, to admonish the more greedy that he had his "belly full?"

Your correspondent says he "would sooner take a calf from a cow as soon as he can stand, and teach him to drink, before he learns to suck?" Can he do it? I will pay a small premium for that knowledge, whether it comes from an "old woman," or some "able correspondent."

"Care should be taken not to let them drink too fast." Please tell us how *you* do it.

I have raised a number of fine cattle on "skimmed milk." I sold a yoke of steers, the 12th of December last, that were two years old, for $80; and I was offered $30 for a heifer, of the same age, the same day. These were fed in the manner described in the article that "astonished" your correspondent so much.

If J. N. will give us his name and post office address, if I ever "go that way," I should be pleased to take a look at *his* calves. E. MAYNARD.

*Limerick, N. Y., April, 1859.*

## UNDERDRAINING ECONOMICALLY.

EDS. GENESEE FARMER:—The first requisite to successfully underdrain a field or piece of ground, is to select a good outlet for the water, and ever after see that this outlet is kept open and clear from all obstructions. Then mark your ditches so as to run along side of the hill as much as possible, and not up and down the slope of the ground, giving them simply fall enough to carry off the water. To open the ditches, I take an old iron plow, and break off all the mould-board I can without injuring the share; then with one good horse, (or two, one before the other,) I plow the ditch 2½ feet deep and just wide enough to permit a shovel to work well in the bottom of the ditch. This saves nearly one-half the labor in opening the ditch. The earth is then thrown out with a shovel on each side. Then draw your stone and throw them alongside your drains, and if any are too large, break them before you put them in the drains. I throw them in without any regard to how they may lie, and if they are not too large, nor thin, flat stones, there is no danger but that the water will find its way through. Break them over the top, and level them; then put some straw over them, to keep the earth from working down among the stones until it gets settled; then run your plow along with your furrow horse in the ditch, and in one hour you can cover a great many drains. Be sure the stones are so far from the surface that your plow will never touch them, as in that case the soil would wash down and close the drains. If there is any danger of surface water running over the top of the drains and washing off the soil, plow a few furrows on it, and leave open furrows a few feet from the drain, on each side, to carry off the surface water. I have seen drains rendered useless by having the soil washed off the stones, when the wash would soon close them up.

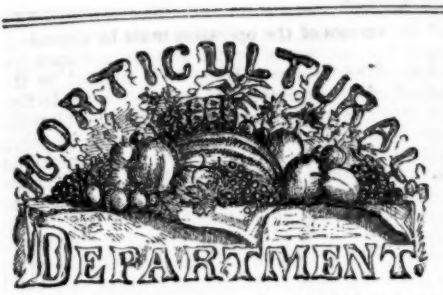
*Westmoreland Co., Pa.* H. S. KINDIG.

## PRESERVING SWEET POTATOES.

EDS. GENESEE FARMER:—Permit me to give your inquiring friend, G. W. B., of Rossville, Ind., the requested information concerning the most economical method of preserving sweet potatoes for winter use and spring sprouting. It is this: In the fall, collect from the road the dust that has been formed of a mixture of sand and clay, and dry it thoroughly, by either placing it on a platform in the sun, or in a kiln. Now take an old barrel, put in a thin layer of the dust on the bottom, then a layer of potatoes, one deep only, then another of sand, so as to completely cover them, &c., until your barrel is filled, if you happen to have enough to do it. Keep the barrels, after being filled, in a dry place until frosty weather; then remove them to your kitchen loft, where they can have the benefit of the fire below to keep them from freezing, and also from becoming damp, either of which causes them to rot immediately.

Now, if you can keep "Bridget" from digging them all out and roasting them, you will have them sound and lively the first of May. Indeed, we have kept them a whole year in this manner, and have practiced it with uniform success for a number of years. D. P.

*Martinsburg, Ohio, May, 1859.*




### SULPHUR FOR MILDEW ON THE GRAPE.

When at Quincy, Ill., last summer, we recommended to a gentleman whose grape vines were much affected by mildew, the use of sulphur; and he now writes us for more definite information in regard to its action, and the manner of application.

Powdered sulphur dusted on the affected parts, has, for many years, been known as a remedy for mildew on the peach. It is only since 1846 that the grape mildew has attracted much attention; but since then, its ravages, some years, have been so extensive in the wine districts of Europe as to create much alarm, but it is now demonstrated that the judicious application of sulphur is a certain remedy—and the only one.

The object to be aimed at in applying the sulphur, is merely to bring it in contact with the mildew. This can be done by simply throwing the sulphur on the vines and bunches. Quite a number of machines, called sulphurators, have been invented in England for this purpose, resembling, somewhat, a miniature fanning-mill—the sulphur being scattered on the plants by the force of the wind. They are used extensively in the English hop-yards—sulphur being found equally effectual as a remedy for the hop mildew.

Sulphur volatalizes rapidly at 180°, and the fumes destroy the mildew. In greenhouses, therefore, a good method is to scatter sulphur on the hot water pipes, or whitewash them with a mixture of four ounces of sulphur (black sulphur is considered the best) and four ounces of quick lime, dissolved in three gallons of water, closing the house afterwards from thirty minutes to an hour, according to the virulence of the disease. If sulphur is ignited, sulphurous acid gas is formed, which *destroys the leaves*, as well as the mildew. It will not do, therefore, to burn the sulphur.

Sulphur is insoluble in water. But if one pound of flowers of sulphur, and an equal measure of quick lime, are boiled for ten minutes in a glazed earthen pot, with five pints of water, hyposulphite of lime is formed, which is very soluble. It should be constantly stirred while boiling. It is then allowed to settle, and the clear liquid is, when cool, ready for use, after being mixed with one hundred parts of water. The vines are syringed with this water. This is effectual, economical, and easily applied on a large scale.

This hyposulphite of lime may easily be obtained by leaching the refuse lime of the gas-works. The hyposulphite is very soluble, and the less water used for the purpose the better, in order to avoid dissolving other substances. It should afterwards be largely diluted with water, and applied with the syringe, as before recommended.

If seven pounds of sulphur and one pound of lime are boiled in water for several hours, pentasulphuret of calcium is formed. This substance contains about eighty per cent. of sulphur, and is quite soluble in water. We have never seen it recommended for mildew, but think it eminently worthy of trial. It is the sulphur, and not the lime, that is the effective agent; and the less of the latter in proportion to the former the better. The pentasulphuret of calcium contains more than *ten times* as much sulphur, in proportion to the lime, as the hyposulphite of lime. It approximates closely to a solution of sulphur.

We hope some of our readers will experiment with this compound, not only on the vine, but on the gooseberry, the mildew of which is closely allied to that of the grape. It is not improbable, too, that it would be useful in preventing the cracking of the pear, which is now generally conceded to be caused by a fungus.

### RINGING THE VINE.

In 1857, M. Bourgeois called the attention of the Paris Horticultural Society to his experiments in ringing the grape vine, and stated that the process, under proper conditions, caused the grapes to *ripen a fortnight earlier, and to produce larger berries.* A committee was appointed to visit his grounds, near Ramboillet, and they published a report confirming in the main the statements of M. Bourgeois.

Since then the subject has excited considerable interest in France and also in England. Numerous experiments have been made, and the results are on the whole very favorable. At the meeting of the Paris Horticultural Society, last autumn, M. Bourgeois exhibited several pieces of bearing wood, each with two or three shoots, some of which had been ringed and the others left to themselves. The latter had only bunches in the common condition, while the contiguous ringed shoot bore a superb

bunch with magnificent berries, each *twice as large as the other*. This was the case with every piece of bearing wood in which one shoot had been ringed and the other not. In the opinion of M. Bourgeois, the following advantages belong to the ringing system: A fortnight's earliness, finer berries, and better quality.

The operation consists simply in removing, when the vine is about to flower, *a ring of bark something less than half an inch wide just below the insertion of the bunch*. As the shoot is eventually destroyed by the operation, such shoots only should be ringed as would have to be cut out at the next year's pruning.

At the exhibition of the N. Y. State Ag. Society, last year, by far the largest and best ripened bunch of *Isabellas* was shown by a gentleman from Chautauque county. They were truly magnificent. The shoot on which they grew had been accidentally girdled below the bunch by the wire that fastened it to the trellis.

Ringing trees to promote fruitfulness is no new thing. Knight directed his attention to the subject for many years, and his remarks on the cause of the phenomenon are worth quoting:

"The true sap of trees is wholly generated in their leaves, from which it descends through their bark to the extremities of their roots, depositing in its course the matter which is successively added to the tree, whilst whatever portion of such sap is not thus expended, sinks into the alburnum, and joins the ascending current, to which it communicates powers not possessed by the recently absorbed fluid. When the course of the descending current is intercepted, that naturally stagnates and accumulates above the decorticated space; whence it is repulsed and carried upwards, to be expended in an increased production of blossoms and of fruit; and, consistently with these conclusions, I have found that part of the alburnum which is situated above the decorticated space to exceed in specific gravity very considerably that which lies below it. The repulsion of the descending fluid, therefore accounts, I conceive, satisfactorily for the increased production of blossoms, and more rapid growth of the fruit upon the decorticated branch; but there are causes which operate in promoting its more early maturity. The part of the branch which is below the decorticated space is ill supplied with nutriment, and ceases almost to grow; it in consequence operates less actively in impelling the ascending current of sap, which must also be impeded in its progress through the decorticated space. The parts which are above it must, therefore, be less abundantly supplied with moisture, and drouth in such cases always operates very powerfully in accelerating maturity. When the branch is small, or the space from which the bark has been taken off is considerable, it almost always operates in excess; a morbid state of early maturity is induced and the fruit is worthless.

If this view of the effects of partial decortication, or ringing, be a just one, it follows that much of the success of the operation must be dependent upon the selection of proper seasons, and upon the mode of performing it being well adapted to the object of the operator. If that be the production of blossoms, or the means of making the blossoms set more freely, the ring of bark should be taken off early in the summer preceding the period at which blossoms are required; but if the enlargement and more early maturity of the fruit be the objects, the operation should be delayed till the bark will readily part from the alburnum in the spring. The breadth of the decorticated space must be adapted to the size of the branch; but I have never witnessed any except injurious effects, whenever the experiment has been made upon very small or very young branches, for such become debilitated and sickly, long before the fruit can acquire a proper state of maturity."

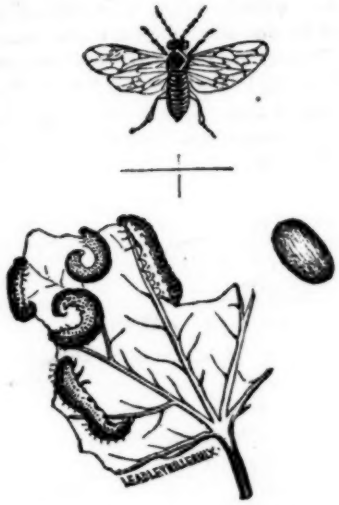
The latter part of this extract is at variance with the experience of M. Bourgeois; but Mr. Knight seems never to have experimented on the vine. On the whole, he seems to have preferred ligatures to ringing. He found a string drawn tightly round a branch to answer in a great measure all the purposes of ringing. M. Bourgeois, however, finds that on the vine "ligatures do not answer near so well as rings."

We hope our readers will try ringing the vine, this summer, and report the results.

## GAS TAR FOR PEACH TREES.

A Maryland correspondent of the *American Farmer* says that, after having tried all sorts of remedies to protect his peach trees against the borer without success, he concluded to try "gas tar." He says: "I cleared away the earth from the body and roots of the tree to the depth of three inches, carefully taking out all the worms I could find; and as soon as the dirt on the tree became dry, I had it well rubbed off with a corn-cob, leaving the bark bare. Then, with a paint brush, I applied the tar in a thick coat to the tree, from the roots to some three inches above the ground. After a day the holes were again filled with earth, and so left. My first experiment was in August, 1855. In the spring of 1856 I examined the trees, and found them clear of worms; and finding the tar had not injured them, I determined to paint all the peach, apricot and plum trees in my garden of a size to bear fruit, and about the middle of May I did so. I examined the trees next spring, and found the whole of them free from worms, and in a thrifty, vigorous state.

I had all my trees painted again in the spring of 1858, and no one could desire trees more beautiful, and more free from worms. I think the trees should be painted every year, from the middle of May to early in June."



GOOSEBERRY SAW-FLY.

Our gooseberry bushes are attacked by this insect. There are hundreds of caterpillars on a single bush. Some of the bushes at this time (May 20) are completely defoliated, while others adjoining are, as yet, untouched.

This same insect (*Nemàtus trimaculatus*) was very destructive to currant bushes last year, in this section; and a cut which we had engraved for the *Farmer* at that time, may not be uninteresting to many of our new subscribers.

The flies emerge from their winter quarters about the middle of April, and the female soon after deposits her eggs on the under side of the leaves. The larva are hatched in about a week, and commence feeding on the leaf. The broods appear in succession from May till October, but in greatest numbers in June. The early brood of caterpillars descend into the earth, spinning themselves a yellowish cocoon. Here they undergo their transformations, and emerge as flies in about three weeks. The later broods descend in the same way, but the pupa lie in the ground all winter.

Slacked lime, scattered over the bushes while the dew is on, is said to be a good remedy. It should be done two or three times, and the earlier in the season the better. Syringing the bushes with water heated to 140°, will kill the caterpillars, without hurting the foliage. By spreading cloths under the bushes, and then jarring off the caterpillars, many of them may be easily destroyed. A little care for a few days, in this way, and in picking them off the bushes, will be effectual.

## LIGNITE TO DESTROY INSECTS.

The London *Cottage Gardener* last year gave an account of the discovery of a black powder, which proved very destructive to insects. It also destroyed the mildew on grapes, when dusted on an infected bush. It did not injure any plants to which it was applied; on the contrary, it proved a good fertilizer.

M. Millot Beule exhibited the article at a meeting of the French Academy of Sciences, and stated that it was a species of lignite — sulphur coal — ground fine. It is found in extensive deposits in Saxony, where, for some years past, it has been turned to account for the preservation of timber. The lignite is ground fine and dissolved in water, and the timber allowed to soak in it until it has undergone a change, which partakes of the nature of mineralization. Mere contact with the lignite appears to suffice; and it is said that beams which have been used in the workings for thirty years, are sounder and more likely to last than when first put up. In Saxony, railroad sleepers are prepared with this substance, and with manifest advantage.

These effects would indicate that it contains some empyreumatic substance, (something allied to creosote, perhaps,) gas tar, soot, &c., having, to some extent, the same action as is ascribed to this lignite.

We have looked for further information in regard to this substance and its effects, but nothing has appeared. It is nothing more than the "Bovey coal" of England, and undoubtedly exists in many places in this country. It is well worthy of trial.

Sulphur and Lime for Gooseberries.—I have raised gooseberries successfully for six or seven years. I prune out all the wood over four years old, and let one or two strong shoots stand every year; and after the crop is off, I shorten them in about one-third, and in spring salt well around the bush, under the branches, with a little sulphur and lime, worked in the soil, and mulch with coarse manure. My gooseberries are on a clay soil, dug deep, which I think essential. I have not had a dozen berries mildewed, and have raised all I want for family use. The varieties are *Crown Bob*, *Rifleman*, *Red Warrington*, &c.—A Subscriber, *Wilson*, *Niagara Co., N. Y.*

Lime on Apple Trees.—I have a fine lot of thrifty apple trees, which are bearing well. One of my neighbors has also a lot of trees which looked as thrifty as mine, until within the last three years. He applied one bushel of lime at the trunk of each of his trees, turning it in, and now the worms have eaten nearly all the bark off from them a few inches below the surface of the ground, and the trees look as if they would die. I also limed and manured my trees, but spread it all over the land, and they now bear so much the better.—J. B. H., *Newburgh, Cumberland Co., Pa.*

## BIRDS—THEIR USEFULNESS.

THE PHŒBE-BIRD.

It is a noticeable fact that of late years the insect pests of the garden and orchard are increasing to an alarming extent, and the ravages they commit upon fruit trees and fruit may well nigh lead the fruit-culturist to despair of success. Plums, nectarines, and apricots, have almost disappeared, owing to the ravages of the curculio. Good cherries, even, are becoming scarce. Apples and Pears are too often worm-eaten and worthless. Grapes, though comparatively free from insects or diseases, as yet, are to the multitude as sour as they were to the fox in Æsop's fable. The insect and vermin destroyers of our field crops are also becoming more numerous every year. On the other hand, insectivorous birds, designed to keep them in check, are wantonly destroyed by man. What if the birds do occasionally pick a cherry or a strawberry? It will be generally found that they take only those containing the larvæ of some insect. Instead of destroying the birds, would it not be better to look upon them as the best friends of the farmer and gardener, and to encourage their presence among us by leaving them to enjoy the short period of life allotted to them, unharmed by the fowler's gun or the nest-robbing proclivities of recreant school-boys or lazy loafers. Well may the cultivator be content to allow the tribute of a few of his smaller fruits to the watchful guardians of his trees and crops.

THE BARN OWL.

We give cuts and descriptions of a few of the more important and useful of these birds, mainly derived from an excellent article by C. N. Bement, in the *Rural Annual* for 1858.

The Barn Owl.—This queer-looking but useful bird affords an instance of mistaken persecution. We often see his carcass nailed to the barn-door. Yet he destroys and feeds upon the rats, mice, and other vermin that infest the barn and the harvest fields. Farmers are apt to suppose that because the owl resorts to the barn, he destroys the eggs and young of their pigeons and fowls; but he merely seeks repose and concealment during the glare of daylight.

THE BLACKBIRD.

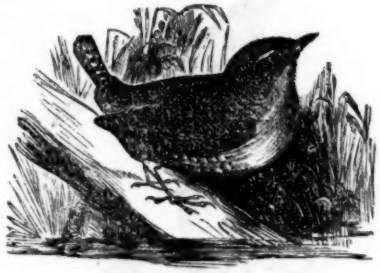
The Blackbird is the avowed enemy of all grubs, and may be seen in large flocks in a recently-plowed field, industriously searching for these vermin.—Not content with a superficial search on the surface, he pokes about with his bill to the depth of several inches, to discover the worms.

The Phœbe Bird is a sociable little fellow, and generally builds his nest in the porch or under the eaves. They arrive early in the spring, and the first chirp sends gladness through the house, as it is a sure sign that the severe frosts are ended, and the gardener may resume his labors with confidence. They feed on flies and various small insects.

THE HOUSE WREN.

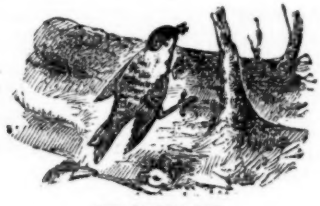
The Ween is another nice, sociable little bird, and destroys vast numbers of insects. An observing lover of birds counted fifty times in one hour that one pair of wrens went forth to bring food to their nestlings; and he says they never returned without an insect in their bills. This perpetual flying forth and returning is repeated from morning till night, and continued till the young birds are

able to fly forth themselves; and even if they once in a while nip a strawberry or a cherry, no person will grudge them it as the honest due of their services.



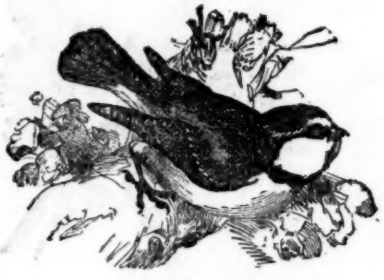
THE WREN.

THE CHICK-A-DEE is a great favorite of all—active, noisy, and restless. Hardy, and capable of bearing the severest cold, on still winter days he may be seen hopping from tree to tree, examining every twig, branch, and crevice in the bark, for insects and their larvæ. Nothing can exceed his cheerfulness or his industry.



THE CHICK A-DEE.

THE CREEPER is a frequent companion of the chick-a-dee, but confines his search to grubs that are concealed in the wood of the tree.



THE CREEPER.

THE CEDAR OR CHERRY BIRD is generally no favorite with the fruit-grower, from his frequent attacks upon the cherries. But in mitigation of his crime of plundering the cherries, a recent writer observes: "While watching the little rascals plundering my fruit, I noticed that they never disturbed a sound cherry, but took only those that had worms in them. Since then I have not allowed them to be destroyed, and am satisfied that they never take the sound fruit."

THE CEDAR OR CHERRY BIRD.

THE CAT-BIRD.

THE CAT-BIRD.—Few people in the country respect the cat-bird. He is generally an object of dislike, from his fondness for cherries and strawberries. Yet he has redeeming qualities in his fondness for insects, the music of his song, and the playfulness of his manners.

SWALLOWS and MARTINS should be encouraged to take up their abode around our dwellings; for they live upon flies, wasps, beetles, and small insects, the larvæ of which are the pests of the garden.

THE PURPLE MARTIN.

THE BARN SWALLOW.

THE SPARROW is a most industrious insect exterminator. A single pair have been known to carry five hundred insects to their nest of young within an hour. They are very domestic, frequenting the garden, and sometimes venturing into the house after insects.

THE SPARROW.

THE KING BIRD OR GREAT FLY-CATCHER feeds on all the larger flies, canker worms, beetles—in fact on all the insect tribe. His love for the honey bee is well known, but it is believed he destroys only

THE KING BIRD.

the drones. He has a habit of attacking and driving away hawks, crows, and other birds of prey from the precincts of the farm-yard. Who, then, would grudge him the few bees he takes?

THE AMERICAN ROBIN.

THE AMERICAN ROBIN.—This familiar bird, so well known for his early song and domestic habits, makes his appearance among our earliest field birds. His food consists of berries, worms, and caterpillars. He is particularly fond of the berries of the mountain ash and the fruit called poke-berries. Although he may plunder a few cherries, yet he is more serviceable, in destroying grubs and insects, than ten times the value of the fruit he eats.

THE SPOTTED WOODPECKER.

THE SPOTTED WOODPECKER feeds on the insects and larvæ found on trees. It appears to be an erroneous opinion that these birds injure trees. Their only object in pecking the wood and bark is to get at the hidden insects that they know to be

concealed within. Insects seldom bore into healthy wood; but a decayed stump or branch is always full of them, and the woodpecker sets to work and destroys them all.

THE AMERICAN GOLDFINCH OR YELLOW-BIRD.

THE AMERICAN GOLDFINCH OR YELLOW-BIRD.—Every one knows this pretty little bird, and has noticed him perched on a thistle by the road-side, the seeds of which are his food. But for him they would in a measure overrun the grounds of every farmer.

THE BLUE JAY.—This bird has nothing but his beautiful plumage to recommend him. He is exceedingly noisy and mischievous; and although he lives on insects, it is only when berries are not to be had. He also helps to drive away the more useful birds.

THE BLUE JAY.

In addition to these, there are other birds, too numerous to mention in this short article; but we can not help putting in a word for the BLUE-BIRD—the prettiest, most useful, and the best singer of all our native birds; and one, too, peculiar to our country. He may be seen perched on a rail, pouring out his melody, during the sultry hours of the day; while morning and night he is unceasingly employed in picking up the early worm or the drowsy beetle.

## HORTICULTURAL NOTES FOR THE MONTH.

THIS is a good time to sow peas for a late crop; but to insure success it will be necessary that the ground be in good tilth, deep, rich and moist, to enable them to stand the hot, dry month of August. Many persons have a notion that peas should be sown on poor ground, because on rich they make more leaves and stalks than pods. I have never found that the ground could be too rich for peas, provided they have room, and good sticks to climb upon. If time can be spared when the peas have set their first pods, it will be found very beneficial to the main crop to pinch off the tops of the stalks a few inches.

SWEET OR SUGAR CORN may still be sown for a second crop. Sow in hills three feet apart, from center to center. If three seeds grow it will be enough. If a shovelful of good, rotten manure be put under each hill before sowing, it will be found very beneficial.

LIMA BEANS.—A good way of growing Lima beans is to dig a trench one foot wide and one foot deep; then fill in six inches with good, rotten stable manure and decayed leaves; cover this over with the surface soil and mix a little. Plant the beans on the top, cover one inch. When up, thin out to six inches apart. Now drive stakes six feet apart and five feet high, and tie or nail a pole on the top of these stakes, and set thin brush along the row, like pea sticks, to enable the beans to reach the pole on top of the stakes. I think three times the quantity of beans on the same ground, and at less expense for poles, can be grown this way than in the ordinary way of hills and poles.

STRING BEANS.—In some warm, deep, rich ground, draw drills with the corner of the hoe two feet apart and two inches deep. Sow *Early Six Weeks* beans, and cover over. When up six inches, draw earth up to the stems with the hoe, and keep clear of weeds.

CUCUMBERS AND MUSK MELONS.—Dig holes two feet square and one foot deep, and six feet apart; fill them with equal parts of turfy sods and rotten manure, or mix rotten manure with the soil that came out of the hole, and fill it in again. This will raise the hill three or four inches above the surrounding soil. Sow six or eight seeds upon each hill, and press them in one inch deep. When well established, thin out to three plants in a hill. The *Early Christina* Musk Melon is the best variety, all things considered.

WATER MELONS managed this way do remarkable well; only make the hills eight or ten feet apart. Watch well the bugs, morning and evening. Catch and kill every one. This, and keeping all clear of weeds, is more readily advised than done. The easiest way is to walk quickly with a piece of thin gauze, and spread it over the plants before the bugs have time to fly away, you may then catch and kill them.

TOMATOES are better when trained to espaliers, or when branches of trees are laid beneath them to keep them from the ground. They are not so liable to rot, and will remain good later in the season.

JOSIAH SALTER.

*Rochester, N. Y., June, 1859.*

ALOES TO DESTROY BUGS, &C.—A correspondent of the London *Cottage Gardener* recommends bitter aloes to destroy the aphis and other insect marauders. Mix half an ounce of aloes with a gallon of warm water, and apply it to the infected plants by means of a fine syringe or watering can, and, he says, "before half an hour you will have clean plants." He syringed his rose trees and cucumber plants with it last season, and it not only cleared the plants at the time, but there was not one on all the season after; and it does not harm the foliage in the least.

It is well known that a solution of aloes is fatal to the common bed-bug; and another intense bitter—gentian—is fatal to the house fly. Aloes is a cheap drug, and we would recommend a trial of it.

MULCH your Dahlias, if you want fine, rapid, vigorous growth, and full abundant bloom. Much the best substance for the purpose is the soft, spongy meadow moss, but leaves and coarse meadow hay will do.

### THE APPLE TREE BORER.

A WRITER in the *Genesee Farmer* gives an opinion that the apple-tree borer "*will never attack a perfectly healthy tree,*" remarking that "there is a vast difference between a *thrifty* tree and a *healthy* one." A *healthy* tree he regards as one that has received nothing but *vegetable* manure (good soil), whereas, a *thrifty* tree may have received animal manure. He remarks that the borer would not molest a tree which had been grown wholly by the aid of vegetable manures. To illustrate his theory, he refers to one of his orchards, which was set out on unbroken pasture land, and received but one plowing and no manure. These trees were never attacked by borers, while in other orchards, which had been repeatedly plowed and fertilized with animal manure, (that is, yard manure, or the droppings of animals,) they commit their yearly depredations.

The facts here stated clearly illustrate what we have repeatedly published; and as the writer does not attempt to explain the cause, he is evidently laboring under a misapprehension. The facts are simply these: Trees planted and manured with stimulating (animal) manure, are forced into a rapid, *immature* growth, leaving the stem and young branches filled with sap. This sap is severely frozen during the cold days of winter, and when it becomes suddenly thawed, as it frequently will, on the sunny side, in the middle of the day, the sap becomes vitiated and diseased, producing similar results upon that side of the tree next the sun, to those which take place in a potato or other vegetable when frozen and suddenly thawed. This diseased condition is just what the borer seeks. The trees planted in ordinary good soil make a more slow *healthy*, matured growth, and are not liable to the same injury by frost, and hence not exposed to disease, and of course, uninviting to the insect.

Newly planted trees should be kept in a healthy, growing condition; and, by *timely cultivation*, their growth may be entirely under the control of the cultivator. The most critical period with a young orchard of apple trees in this respect is from *three* to *six* years from the time of planting. As an additional safeguard, we have frequently recommended training the trees with low heads — and to do this the work of training must begin while the trees are young. Cut them back well, and force out a growth of branches near the ground, let the height be governed by the habit of growth of the particular variety. The branches shade the body of the tree, and prevent the fatal consequences of the sudden changes through the influences of cold and heat. Nor are these all the advantages resulting from low-trained trees. They are much less liable to assume a leaning position through the influence of the prevailing winds. The fruit is more easily gathered and less liable to injury in falling from the trees. Low headed trees, it is true, require a little more care in cultivation to guard against bruising them, but this is but a small matter when the work is done with implements of proper construction.—*Valley Farmer.*

REAUMUR has calculated that in five generations one aphis may be the progenitor of 5,904,900,000 descendents; and there are ten generations in nine months.

## Ladies' Department.

### ORIGINAL DOMESTIC RECEIPTS.

[Written for the Genesee Farmer by various Correspondents.]

WALNUT PUFFS.—Two tablespoonfuls of flour, two ounces melted butter, two ounces sugar, two ounces hickory nuts beaten fine. Bake in cups well buttered.

COLD CUSTARD.—One quart of new milk, one-half pint of cream, four ounces white sugar, a glass of water in which an inch of washed rennet has been soaked, and nutmeg.

BISCUIT.—One quart of buttermilk, two spoonful of cream, two tea-spoonfuls of soda, one tea-spoonful of salt. Use flour enough to form a stiff dough, kneading it well.

RICE CUSTARD.—Boil three table-spoonfuls of rice flour in a pint of milk. When cold, add three eggs, two ounces of butter, and a tea-spoonful essence of vanilla. Sweeten to taste.

BUTTERMILK PIE.—Three pints of buttermilk, two eggs, four table-spoonfuls of sugar, a tea-spoonful of flour stirred into the milk, and half a nutmeg. Stir well together, and bake like a custard pie.

SPONGE CAKE. — Sift one pound of flour, one pound of loaf sugar, beat ten eggs very light, mix the ingredients well, then add the juice of one lemon. If baked in one cake, two hours is necessary. No saleratus, soda, or tarter is needed.

A NICE TEA CAKE.—Beat the whites of four eggs to a light froth, beat the yolks of the same with a cup and a half of sugar, one cup of sour cream, half a cup of butter; flavor with lemon. A little soda; flour to make a stiff batter.

BREAD PUDDING.—Fill a four quart pan half full of light bread, crumbled fine; add milk so as to nearly fill the pan; let it soak two hours; then add two thirds of a cup of sugar, two eggs, two spoonfuls of sweet cream, a tea-spoonful of salt, half a nutmeg. Bake three-fourths of an hour.

TOMATO MARMALADE.—Take full grown tomatoes while quite green, cut out the stems, stew them till quite soft, rub them through a sieve, set the pulp on the fire; season highly with salt pepper, pounded cloves, and stew all together till thick. It is excellent for seasoning gravies, and keeps well.

TO MAKE RED CURRANT JELLY.—Put your currants in a jar in the oven, and let them remain till the juice is all out of them. To a pint of syrup add a pint of white sugar, pounded, and made *quite hot.* Before the sugar is added, boil the syrup very slowly for two minutes; then add the sugar, and boil it ten minutes.

TO CLEAN GREEN CURRANTS.—An expeditious way of cleaning green currants from stems and grit, is to rub them well and hard in a handful or more of flour, then rub them in a sieve, wash them well in several waters, spread on papers to dry, stir frequently if drying in an oven; but they are better dried on folded cloth in the sun.

**New Advertisements this Month.**

Wood's Mower—Walter A. Wood, Hoosick Falls, N. Y.
Tents and Flags—James Field, Rochester, N. Y.
The Practical Horse Farrier—E. Nash, Auburn, N. Y.
Fish Guano—A. Longett, New York.
Share's Patent Cultivating, Hoeing, and Hilling Machines—Pease & Eggleston, Albany, N. Y.
Agricultural and Horticultural Books—E. Darrow & Brother, Rochester, N. Y.
Colored Pictures of Fruit, Flowers, and Shrubbery—E. Darrow & Brother, Rochester, N. Y.
Seymour & Morgan's New York Self-Raking Reaper and Mower—Seymour, Morgan, & Allen, Brockport, N. Y.
N. Y. State Ag. Society, Premiums on Farms—B. P. Johnson, Sec'y, Albany, N. Y.
Manny's Combined Mower and Reaper—W. A. Wood, Hoosick Falls, N. Y.
Plain and Pleasant Talk about Fruits, Flowers, and Farming—Derby & Jackson, New York.
Ingersoll's Improved Portable Hay Press—Farmer's Manufacturing Company, Green Point, N. Y.

THE WEATHER.—*April* 16 *to May* 16, 1859.—The average heat of the last half of April was 42.13°, being 5° below the average of the same for 22 years; and as the heat of the first half of the month had been the average of the same for 22 years, the mean of April was below the general average of the month about 8°. The effect was to delay vegetation so that, when April closed, much of vegetation was not so far advanced as in April, 1858, only grass and wheat and some trees being the exception. The beautiful shrub Forsythia held back its fine yellow blossoms without leaves a week later than in April of last year.

The rain of the 22d, and the violent storm of snow and wind, which extended over the country, gave us 1.74 in. of water. It reminded us of the like fall of rain and snow two years ago, and two days earlier, when the Suspension Bridge below our lower falls, was crushed and lost. An unusual quantity of rain fell in the month—even 4.11 inches here. As the rain has been great over the western country, Lake Ontario has risen, and was very high at the close of April. The season has been pleasant, roads fine, and much work performed on the farm.

The month of May opened with fine weather, and warm, and the temperature of the first half was a little higher than before in many years. The average of the half, to May 16th, was 59.71°, or nearly 7° above the mean of 22 years. In 1841, the first half was only 43.8°, or near 12° below the mean. The consequence was very rapid progress in vegetation. Cherries were already in blossom a week before April ended, but soon apples, and pears, and quinces, and plums, were richly loaded with blossoms. The trees will be broken down by the fruit, if only one blossom in three to five shall prove to be fertile. In these fifteen days the fields are covered with the flowers of the season. The peach has shown but few blossoms, but other fruits may be expected in abundance. The fields of wheat look well, and the prospect is good over the country.

A CHANCE TO INTRODUCE THE GENESEE FARMER.—As announced last month, we have concluded to take subscriptions to the coming *half-volume*, commencing with the next number. This will afford our friends an excellent opportunity of introducing the *Farmer* into sections where we have now few subscribers.

We have no paid agents. It is a labor of love with those who form clubs for the *Genesee Farmer*; and we respectfully invite *all* our friends who wish to extend the usefulness and circulation of the *Farmer*, to show a copy of the paper to their neighbors, and invite them to give it a trial for the coming half-year. They cannot have a *cheaper* paper. We will send the coming half volume to any address for 25 cents.

We will send *five copies* for one dollar, and present the person getting up the club a copy of our beautiful 25 cent book, the *Rural Annual and Horticultural Directory*, sent prepaid, by mail.

The club need not all be at one post-office. We will send the papers to as many different post-offices as is desired.

The terms for larger clubs will be found on the last page; also a liberal list of Cash Premiums for the greatest number of subscribers for the coming half volume.

We would urge every reader of the *Genesee Farmer*, who thinks it deserves encouragement, to speak to his friends and see what he can do to increase its circulation.

NINETY DOLLARS IN CASH PREMIUMS.—On the last page will be found a list of Cash Premiums for the greatest number of subscribers for the coming half-volume of the *Genesee Farmer*, commencing with the next number. We hope it will attract the attention of our friends. Thanks to their voluntary efforts, our prospects never were so good as at present, and we desire to repay them as far as possible for their disinterested and successful labors in our behalf. We have never before offered such premiums. A little canvassing will enable any one to secure the largest of these Cash Premiums, and the smaller ones will undoubtedly be taken by *very small* clubs.

Will not those of our friends who reside in districts where we have few subscribers, make an effort to increase our circulation? Such, especially, can very easily get up a club sufficient to secure a premium. We will cheerfully send extra copies as specimens, showbills, &c., to all disposed to act as agents. *Let us hear from you immediately.*

REMARKABLE COLT.—Mr. Z. WILLIAMS, of this city, has a colt, now eleven months old, which stands 15 hands high and weighs 1,000 pounds. His symmetry and proportions are perfect; and for size, his equal is not to be found anywhere. He was brought from Darlington, C. W., by Mr. IRA B. BURKE, and comes of good stock, his sire being the imported horse "Cumberland," and his dam by the celebrated "Old Clyde." He will doubtless prove a great acquisition to the breeding stock of this country, and will be exhibited at the N. Y. State Fair, and at the various County Fairs during this season.

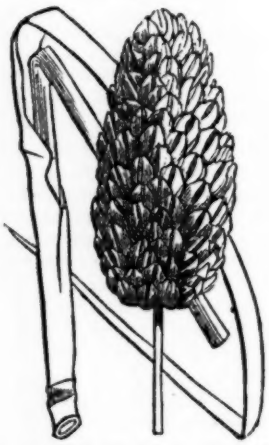
A COMPLIMENT TO OUR CORRESPONDENTS.—MASTON S. GREGG, Esq., of Washington county, Arkansas, writes us:

"I believe your correspondents, with your assistance, will make the *Genesee Farmer* the best paper in the world for farmers. I have compared it with papers costing double the price, and prefer it to any other paper I have seen."

## Inquiries and Answers.

PRESERVING THE COLOR OF FRUITS.—I have not long been a subscriber for your paper, but I am highly pleased with it. It is filled with valuable information and suggestions. I am engaged in the nursery business and fruit culture, and am in want of information which you or correspondents possibly can give me. Is there any mode of preserving fruits (apples, pears, peaches, cherries, plums, etc.,) sound and in their natural color and condition? I have thought perhaps putting them in alcohol would do; or that if the air could be exhausted from glass jars and the jars sealed, they might be preserved whole for one season. I shall be much obliged for any information on the subject.—B. F. TRANSON, *Wellwood, Tenn.*

Alcohol dissolves the coloring matter of fruits—at least, such is the case with strawberries. MULDER, the celebrated German chemist, sent apples to India in jars from which the air had been exhausted. The apples retained their natural color, but lost their flavor. We know of no way of preserving perishable fruit without cooking it sufficiently to coagulate the albumen. This, of course, destroys the color. Some other method of coagulating the albumen might be discovered, which would not destroy the color; and then fruit might be preserved in exhausted vessels and retain their color, flavor, &c. If any of our readers know of such a method, we should be glad to hear from them.



CANARY GRASS.

CANARY SEED.—(M. G. S.) A strong clay land is most suitable for Canary seed. The land should be plowed in the fall and again in the spring, and well scarified and harrowed, to reduce it to a good tilth. Early in May, drill in the seed to the depth of two inches. The drills should be about ten inches apart. Two pecks is sufficient for an acre. The after cultivation consists of keeping down weeds by hand-hoeing.

HAY UNLOADING APPARATUS.—(R. M.) The best apparatus for unloading hay we are acquainted with is manufactured by C. E. GLADDING, of Troy, Bradford Co., Penn. For price and further information, see advertisement in the last number, or send to Mr. G. for a circular.

PERUVIAN GUANO.—(W. A. MUSSON, *Cobourg, C. W.*) You can get genuine peruvian guano from A. LONGETT, 34 Cliff street, N. Y. We have for several years obtained a good article of him.

"HOW LONG WILL THE GRAPE VINE LIVE?"—(T. A. B.) So long that we can not answer your question. It will live as long as the Oak. PLINY speaks of a vine which had existed 600 years. There are vineyards in Italy which have been in a flourishing state for upwards of 300 years; and MILLER states that a vineyard 100 years old is considered young. There is a vine at Hampton Court, near London, of the *Red Hamburgh* variety, supposed to be 375 years old. It occupies about 120 square yards. One branch measures 114 feet in length. It has produced in a single season, 2,200 bunches, averaging one pound each. A vine at Northalleraton, (lately dead,) about the same age, was even still larger. The stem near the ground, in 1765, measured 4 feet in circumference.

POSTAGE ON THE GENESEE FARMER.—(N. G. T.)—Your postmaster is in error in charging you 13 cents a year postage on the *Genesee Farmer*. The legal rates of postage on the *Farmer* are three cents a year in this State, and six cents a year in any other State, paid quarterly in advance.

HORSE-HOE.—(JOHN TURNER.) You will find the Hyde & Wright's Patent Horse-Hoe just the implement you desire. We know of no better horse-hoe for cultivating corn, potatoes, &c. It is manufactured by A. GORDON, of this city. For price, &c., see the advertisement of A. G., in this number.

HOUSE FOR DRYING FRUIT.—I have been a constant reader of the *Farmer* for several years, and will say that, in my opinion, I have never invested money in any stock half as profitable as the subscription price of the *Genesee Farmer*.

I would like to have your own or some of your correspondents' opinions in regard to a house for drying fruit. My means being light, I would like to make every dollar count as much as possible. I have an idea of constructing a frame house so as to answer two purposes—namely, a wash-house and a house to dry fruit in. It would be required but a small part of the year for the drying of fruit. My plan would be to make the house tight by boarding the outside with matched plank, or ceiling inside; build a furnace inside the house to hold two or three large wash-kettles, so arranged that the kettles may be taken out, and the openings closed, when you wish to use the building for drying fruit. I have thought that riddles or frames made of wire, similar to the coarse riddle of a wheat fan, suspended from the ceiling, one over the other, like bunks on the decks of a Western steamboat, would answer the purpose well; and when you had done drying, you could put the frames away in a very small space.

We have considerable fruit, and dry a good deal, in this part of the State; but it is attended with considerable trouble and uncertainty; for it is mostly done on scaffolds in the sun, giving our better halves and ourselves a great deal of trouble in rainy weather.

Now if you or some of your accommodating correspondents will tell us, through the *Farmer*, whether this plan will answer, or give us a better one, they will confer a favor on many.—GEORGE W. MASSEY, *Pike Co., Ind.*

MILK SICKNESS.—I would like to hear from your correspondents in regard to the cause and cure of milk sickness. Is the poison contained in water or vegetables, or in the atmosphere? We have abundance of it here every fall, but cannot tell what it is.—G. W. R., *Clinton Co., Ill.*

CRAMPS IN YOUNG MULES.—I wish to inquire of your numerous readers if there is any remedy for cramps in young mules. I have now several young mules, and one or more is afflicted with this disease.—A READER.

COULTERS ON PLOWS.—I wish to enquire from some of your mathematical friends, the proper angle that a coulter should have with the beam of a plow.—H. R., *Newburgh, New York.*

GRINDING BONES.—Will a mill made to grind plaster do to grind bones? Do bones need any preparation to make them fit to grind? and what is the best mode for using as manure, after being ground? What are they worth to purchase and grind for manure? The machine for cracking the plaster, before grinding, I suppose would do to crack bones; and that the same stones would do for both, but do not know. I will be glad if some of your correspondents can furnish correct and practical information with regard to this, and of the entire method of making bone dust.—H. B. INGHAM, *Camp Town, Penn.*

### Notices of Books, Pamphlets, &c.

DWIGHT'S JOURNAL OF MUSIC has just commenced "Beethoven's best Choruses." Subscribers get the Music with the Journal every week for $2 per annum. Published by DITSURE & Co., Boston.

A STATISTICAL VIEW OF AMERICAN AGRICULTURE, Its Home Resources and Foreign Markets, with suggestions for the Schedule of the Federal Census in 1860. An Address delivered before the American Geographical and Statistical Society, on the organization of the Agricultural Section. By JOHN JAY, Esq. New York: D. APPLETON & Co. 1859.

THE NEW AMERICAN CYCLOPEDIA: A popular Dictionary of popular Knowledge. Edited by GEORGE RIPLEY and CHARLES A. DANA. Vol. 5. Chartreuse—Cougar. New York: D. APPLETON & Co. 1859. D. M. DEWEY sole agent for Rochester and vicinity. Price $3 per volume.

CHEVALIER ON GOLD. On the probable fall in the Value of Gold, the Commercial and Social Consequences which may ensue, and the Measures which it invites. By M. CHEVALIER. Translated from the French by RICHARD COBDEN, Esq. New York: APPLETON & Co. Price $1.

THE LIFE OF JAMES WATT; with selections from his Correspondence. By JAMES PATRICK MUIRHEAD, M. A., author of "The Origin and Progress of the Mechanical Inventions of Watt," &c. Illustrated with wood cuts. New York: D. APPLETON & Co. Price $1.25.

THE LIFE OF NORTH AMERICAN INSECTS. By Prof. B. JAGER, assisted by H. C. PRESTON, M. D. With numerous Illustrations from specimens in the cabinet of the Author. New York: HARPER & BROS. Price $1.25.

MOTHERS AND INFANTS. A Treatise on Nursing, Weaning, and the General Treatment of Young Children. Translated from the French by Dr. A. DONNE. Boston: SAMPSON & Co. Price $1.

SIXTY YEARS' GLEANINGS FROM LIFE'S HARVEST. A Genuine Autobiography. By JOHN BROWN, Proprietor of the University Billiard Rooms. New York: D. APPLETON & Co. 1859. Price $1.25.

HOME MEMORIES; or Echos of a Mother's Voice. By Mrs. CARY BROCK, author of "Children at Home," "Working and Waiting." New York: D. APPLETON & Co. Price $1.

THE LIFE OF GEN. H. HAVELOCK, K. C. B. By J. T. HEADLEY, author of "Napoleon and his Marshalls," &c. With illustrations. New York: CHARLES SCRIBNER. Price $1.25

LOVE ME LITTLE, LOVE ME LONG. By CHAS. READE author of "It is never too late to mend," &c. New York HARPER & BRO'S. Price 75 cents.

NAPOLEONIC IDEAS. By the Prince NAPOLEON LOUIS BONAPARTE. Translated by JAMES A. DORR. New York: APPLETON & Co. Price 75 cents.

SHAKSPEARE'S LEGAL ACQUIREMENTS. By JOHN LORD CAMPBELL, L. L. D., F. R. S. E. New York: D. APPLETON & Co. Price 75 cents.

MORE ABOUT JESUS. With Illustrations and Map. By the "Author of Peep of Day," &c. New York: HARPER & BROS. Price 50 cents.

BORDER WAR. A Tale of Disunion. By J. B. JONES, author of "Wild Western Scenes. New York: RUDD & CARLETON. Price $1.25.

THE ROMANCE AND ITS HERO. A Novel. By the author of "Magdalen Stafford." New York: HARPER & BRO'S. Price $1.

BEN SYLVESTER'S WARD. By the author of "The Heir of Redcliffe." New York: APPLETON & Co. Price 37½ cents.

THE LAWS AND PRACTICE OF WHIST. By CELER. New York: D. APPLETON & Co. 1859. Price 75 cts.

HINTS TO HORSE KEEPERS. A Complete Manual for Horsemen, embracing How to Breed, Buy, Break, Use, Feed; How to Physic a Horse, (Allopathy and Homeopathy); How to Groom, Drive and Ride a Horse, and Chapters on Mules and Ponies. By the late HENRY WILLIAM HERBERT. Beautifully Illustrated. New York: A. O. MOORE & Co. Price $1.25.

All the above books are for sale by D. M. DEWEY, of this city, or they can be obtained from the respective publishers, sent, prepaid by mail, for the price annexed.

## REVIEW OF THE MARKETS.

GENESEE FARMER OFFICE,
ROCHESTER, N. Y., MAY 21, 1859.

THE markets have been in a very excited state during the last two weeks. Stimulated by the warlike news from Europe, speculators have been eager purchasers. It is said by some that the bulk of the purchases have been made for actual consumption, and that the stock is much reduced thereby, notwithstanding the arrivals have been fair for the season. If the purchases have been made for consumption, it is reasonable to suppose that the bulk of them are still on hand, as the quantity changing hands from day to day has been largely in excess of the immediate consumptive demand, and nothing has transpired to increase the actual consumption. The bulk of the transactions are therefore of a speculative character.

FLOUR AND GRAIN.—In this department the activity has been the greatest. The operations in Flour have not been marked with discretion. A wild excitement has been manifest. The price advancing twenty-five to fifty cents per bbl. in a day or two, and then receding fifteen to thirty cents in a corresponding period of time; again advancing, and again receding; but still gaining so much as to make a difference of one to two dollars per bbl., taken at the highest point, compared with last month's report. The transactions in Wheat have been of the same excited character, the advance during the month being thirty to forty-five cents per bushel. It is next to impossible to give reliable quotations. Our remarks have special reference to New York as the leading market, and to other markets as relatively affected by that. Rye has undergone a material improvement, and is in good demand. Corn, Oats, and Barley are higher, but somewhat dull. The prospect of the growing crops is uniformly spoken of as favorable.

PROVISIONS.—There has been great activity and irregularity in the Provision Markets. The great probability of war has induced an unusual demand, and a belief in higher rates for the future; real confidence does not exist; this is evidenced by the fluctuations from day to day. The advance on Pork and Beef has been large—from two to four dollars per bbl.—but it is soon, to a great extent, lost. Lard also improved with an increased demand, but again receded, and closes about the same as last quoted.

WOOL.—The demand is light, the stock small, and prices without material change.

### NEW YORK MARKET.—May 20.

FLOUR AND MEAL—The Market for Flour is in a very unsettled state, with a declining tendency; a concession of 25 to 50 cents per bbl. is not sufficient to induce buyers to operate. Superfine State, $5.50@$6.50; fancy and extra do, $6.50@$7.25; common to good Western, $5.75@$6.60; extra do, $6.75@$8.50; shipping brands of Ohio round-hoop, $7.25@7.40; extra Genesee and St. Louis, $8@$9. Southern Flour dull; Brandywine, $8@$8.25; Georgetown, $7.75@$9; Petersburg city, $8.50@$9.50; Richmond city, $8.25@$9.50; Gallego and Haxall, $9.75. Canadian Flour, $7.25@$8.50 for the range of extras. Rye flour dull at $4.50@$5.50 for fine and superfine. Corn meal dull; Jersey, $4 20@$4.80; Brandywine, $4.62½; puncheons, $21.

GRAIN—Wheat dull and declining; Chicago spring, $1.15@$1.18; red Western, $1.75@$1.85; mixed do, $1.55@$1.70; Milwaukie club, $1.25@$1.28; white Michigan and Kentucky, $2@$2.10. Barley heavy and demand light at 72c@75c for State, and 70c for California. Oats lower; 57c@58c for State; 58c@60c for Canadian and Western. Rye dull at $1@$1.02. Corn dull and lower; New Orleans mixed, 92c; Jersey and Southern yellow, 93c; Southern white, 95; Western mixed, 94c.

SEEDS—Clover, 8c@8¼c per lb. Timothy, $2.18¾@$2.62½ per bushel.

PROVISIONS—The demand for Pork is less active and market lower; new mess, $17 75@$18; prime mess, $19; prime, $13.50. Beef in good request; country prime, $6.50@$7.50; country mess, $8.50@9 50; re-packed mess, $11@$15; extra do, $15.25@$17; prime mess firm; sales of good Ohio at $30 per tierce. Beef hams firm at $16. Cut meats in fair demand; Shoulders, 7¾c@7¾c; Hams, 9c@9¼c. Lard dull at 11¾c@12c. Butter in fair demand at 8c@15c for Ohio, and 10c@20c for State. Cheese steady at 8c@10½c.

BEEF CATTLE—First quality, 11c@12c; medium, 10@10¾c; ordinary, 9c@10c. Sales range mostly from 10c to 11¾c. Calves 6¾c@7c live weight.

SHEEP—$4@$7 per head. Lambs, $3.50@$5.50 per head.

HOGS—Arrivals heavy for the season. Sales 6¼c@6¾, according to quality.

WOOL—The demand is fair and fully equal to the supply. Choice Saxony, 40c@60c; No. 1 city and extra country pulled, 32c @50c; foreign, 12c@35c for the range.

**May 21**—Market for Flour more active, with an advance of 15c to 25c per bbl. on yesterday's rates. Wheat buoyant, and 1c @2c better.

## ROCHESTER MARKET.—May 21.

FLOUR—Market unsettled, with but few transactions. Common to good brands from Western red wheat $6.50@$7.50; extra from white wheat, $8@$9.

GRAIN—Wheat scarce. Good white is worth $1.80@$2; Mediterranean, $1.70; Milwaukie club, $1.50. Corn, 90c@95c. Barley, 60@70c. Oats, 50c@53c. Rye scarce at 85c@90c. Beans, 90c@95c.

SEEDS—Clover, $4.50@$4.75. Timothy, $2@$2.25. Flax, $1.50

PROVISIONS—Mess Pork, $17.00@$18.00. Lard, 12c. Hams, 9c@10c. Shoulders, 7c@8c. Butter, 15c@16c. Cheese, 10@12c. Eggs, 11c@12c. Potatoes, 35c@75c. Beef at retail, 7c@12c; Mutton, 8c@10c; Pork, 10c per lb.; Lamb, 62½c@75c per quar. Dressed hogs, 7¼c. Dressed sheep, 6c@7c per lb.

BEEF CATTLE—Live weight, 5¾c@6c per lb. Lambs, $2@$2.50 each. Calves, $3@$6 per head, according to quality.

HAY—$8@$14 per ton.

WOOL—45c@55c per lb.

## PHILADELPHIA MARKET.—May 19.

FLOUR AND MEAL—Market dull. Accurate quotations can not be given. Sales range from $7.50 to $8.75 for common and fancy brands. Rye flour dull at $5. Corn meal steady; $4.12½ for Pennsylvania; Brandywine, $4.50.

GRAIN—Wheat lower and dull; white, $1.90@$2; red, $1.85 @$1.90. Rye lower; sales at $1. Corn dull at 93c@98c for yellow. Oats steady at 57c@58c for Southern; 58c@60c for Penn.

PROVISIONS—Mess Pork held at $18.50. Mess Beef, $15@$15.50. Bacon—sides, 9½c@10c. Hams, 10c@12c. Shoulders, 8c. Hams in salt, 9c@9¼c; sides, 9c; shoulders, 6¾c@7¼c. Lard—stock low; sales at 12c@13c. Butter in good supply at 13c@15c for roll; packed, 9¼c@10c. Cheese, 10¼c. Eggs, 16c.

SEEDS—Clover, $4.50@$5.50; Timothy, $2@$2.25; Flax, $1.65.

CATTLE MARKET.—Beef Cattle—Market firm; prices range from $10@$12.50 for common to good and extra quality. Cows and Calves, $30@$40, according to quality. Hogs, $7.50@$8.75 per 100 lbs. net. Sheep, 6c@6¼c for clipped, 7c@7¾c for unclipped, per lb. gross.

WOOL—Market quiet. Sales of full-blood at 55c; half-blood, at 50c, cash.

## CHICAGO MARKET.—May 18.

FLOUR—Sales superfine spring at $5.87½; choice white winter at $8.

GRAIN—Wheat declined about 18c per bushel since yesterday. Sales No. 1 red winter, $1.50@$1.69; standard spring, $1.12@$1.14. Corn—sales at 80c in store. Barley—No. 1, 80c—90c; No. 2, 60c@67c. Rye scarce and inactive at $1@$1.12½. Oats quiet at 54c on track, and 57c for No. 1 in store. Beans—common to choice, 75c@$1.25.

SEEDS—Hungarian grass, $2.12½.

PROVISIONS—Pork firm at $19 for mess, $13.50 for rumps. Butter—prime dairy, 12c@16c; common, 10c@12c. Potatoes—Meshannocks, 70c@75c; Pink-eyes, 70c; common, 55c@60c.

WOOL—Market inactive. Merino and Saxony fleece, 40@50c; extra, 50c; super, 38c; No. 1, 33c.

## CINCINNATI MARKET.—May 19.

FLOUR—Market dull. Superfine, $7.25; extra, $7.50; closing unsettled.

GRAIN—Wheat dull and irregular; white, $1.65@$1.85; red, $1.65@$1.70. Corn firm at 89c@91c for mixed. Rye steady at $1.03@$1.05. Barley dull at 55c@62c. Oats, 62c@65c; market dull.

SEEDS—Clover, $4.50@$4.75. Timothy, $2@$2.25. Flax, $1.50

PROVISIONS—Mess Pork $18.50. Bacon—sides, 9¾c@10c. Shoulders, 6¾c@7c. Lard, 11c¾@12c. Butter—market steady; choice yellow W. R., 18c@19c; prime Ohio, 14c@17c.

BEEF CATTLE—Common, $4@$4.50; prime, $4.75@$5.75; choice, $6.

HAY—Market firm. Prime Timothy, $19@$20 per ton.

WOOL—Market irregular. Sales of new clip at 35c@45c.

## BUFFALO MARKET.—May 21.

FLOUR—Dull and declining. Common from Chicago spring wheat, $6; Milwaukie club, $6.50@$6.75; winter red wheat, $7@$7.25; choice extras, $7.50@$8.

GRAIN—Wheat dull and lower; winter red, $1.50; white $1.80. Corn lower; 80c offered. Barley, 65c@70c. Oats, 56c@57c for Western. Rye—no transactions.

SEEDS—Clover, $4.80@$5. Timothy, $2 37½@$2.50.

PROVISIONS—Market quiet and but little doing. Mess Pork, $18.75 for heavy, and $17.50@$18 for light; prime, $12.50@$13. Hams, 10c; sugar-cured, 11c. Shoulders, 7½c. Lard, 12½c.

## TORONTO MARKET.—May 18.

FLOUR—With a light stock, transactions are limited. Superfine, $7.25@$7.50; fancy, $7.62½@$7.75; extra, $8.00@$8.25.

GRAIN—Supply of Wheat limited; demand good; prime $1.95 @$2; good, $1 85@$1.95; inferior, $1.70@$1.80; spring wheat, $1.50@$1.60. Barley more active with a limited supply at 70c@75c. Rye quiet at 75c@80c. Oats firm at 55c@60c. Peas scarce and inquired for; good varieties, 95c@$1; ordinary, 85c@90c.

PROVISIONS—Mess Pork, $19@20; prime mess, $14@$16; prime, $13@$14. Bacon—sides, 8c@8¾c. Hams, 10c@11¾c. Butter, 25c@30c for fresh; tub No. 1 quality, 17c@20c; No. 2 do, 12½c@15c per lb. Cheese—American prime, 12c; good do, 10c; for skim milk Cheese, 6c per lb. Eggs plentiful at 9c@10c per dozen. Potatoes steady 60c@70c; retail, 70c@75c, per bushel.

HAY—In good supply at $12@$20 per ton. Straw, $8@$10.

CATTLE MARKET—Prime Cattle scarce at $8; medium, $7; inferior, $6@$6.25 per 100 lbs. live weight, allowing one-third for shrinkage. Sheep, $4@$4.50 for clipped and $5.50@$6 for unclipped. Lambs $2 each. Calves, $4@$7.

WOOL—With signs of activity, and a large clip expected, quotations range from 20c@25c per lb.

## LONDON MARKET.—May 9.

FLOUR—American sour, $5.76@$7.20; sweet, —.

GRAIN—American white Wheat, $1.50@$1.71; do red, $1.50 @$1.68. Indian corn—white, 96c@99c; yellow, 96c@$1.02, per 60 lbs.

SEEDS—Red clover, 11c@14c; white do., 19c@22c. Linseed, $1.62@$1.74 for crushing, and $1.92 for sowing.

WOOL—With an increased stock prices are drooping. Sales at 28c@48c for the range.

## LIVERPOOL MARKET.—May 6.

FLOUR AND MEAL—Western canal Flour, $5.65@$6.13; Baltimore, Philadelphia, and Ohio, $5.88@$6.75; sour, $5.18@$5.65. Corn Meal, $4@$4 25.

GRAIN—American white wheat, $1.65@$1.92; red do., $1.44@$1.70 per bush. of 60 lbs. Indian corn—yellow, $1.02c@$1.00c; white, $1.16; mixed, 98c@$1.02; per bush. of 60 lbs.

SEEDS—American red clover, new, 11c@13c per lb.

WOOL—For the range of domestic qualities, 12c@40c per lb. No sales of foreign.

## BRIGHTON CATTLE MARKET.—May 19.

At market, 850 Beeves, 90 Stores, 1100 Sheep and Lambs, 2500 Swine.

PRICES—Market Beef—Extra, $9.50@$9.75; First quality, $8.50; Second, $7.00; Third, $6.00. Milch Cows—$39 @ $45; Common, $19@$20. Veal Calves—$4@$7. Yearlings—none. Two Years old—$24@$28. Three Years old—$30@$33. Hides 7¼c@7¾c per lb. Calf Skins—13c@14c per lb. Tallow—7¾c@8c. Sheep and Lambs—$1.75@$2.00; extra, $3.00@$6.00 Pelts—$1.50@$1.87. Swine—Stores, wholesale, 6c@6¾c; Sows, retail, 7c@9c; Barrows, 7c@7¾c.

Beeves are sold here by the head, at prices per lb. equal to the estimated weight of beef in the quarter, together with the fifth quarter, or the hide and tallow, at the same price, at a shrinkage from live weight agreed on by the parties—from 28 to 34 per cent.


## ADVERTISEMENTS.

A FEW short advertisements of interest to farmers—and only such—will be inserted in the *Genesee Farmer* for twenty cents a line, or $2 per square, each insertion, payable in advance. To secure insertion, they should be sent in by the 15th of the previous month. The *Farmer* has large lists of subscribers in *every State and Territory, and in all the British Provinces.* (It has nearly 3000 subscribers in Canada West alone.) There is no better or cheaper medium for advertising everything of general interest to rural residents in all parts of the United States and Canada.

FISH GUANO—In quantities to suit purchasers, at $25 per ton of 2000 lbs. je21 A. LONGETT, 34 Cliff St., New York.

COLORED PICTURES OF FRUIT, FLOWERS AND SHRUBBERY—Drawn from nature, and colored with care, for the use of Nurserymen and Tree Agents. Send for a catalogue. E. DARROW & BROTHER,
Agricultural Booksellers.
June, 1859—2t Rochester, N. Y.

**U. S. TENT AND FLAG MANUFACTORY.**

**No. 13 Buffalo Street, Rochester, N. Y.**

TENTS to rent of the following sizes, suitable for the purposes designated:

*For Agricultural Fairs, Conferences, Political or other large Gatherings.*

80 ft. by 110 ft.....80 ft. diameter.
60 ft. by 90 ft.....70 ft. "
50 ft. by 80 ft.....60 ft. "
15 ft. by 20 ft. fancy.....50 ft. "

*For Camp Meetings, Military Encampments, Pic Nics, Fishing Excursions, &c.*

24 ft. by 30 ft. | 12 ft. by 17 ft.
16 ft. by 24 ft. | 9 ft. by 12 ft.

Flags furnished with Tents, when required.

Parties wishing to rent, will please address the proprietor, stating what the Tents are to be used for. Also the facilities for transportation. Address JAMES FIELD, Box 701,
June, 1859—4t* Rochester, N. Y.

**NEW YORK STATE AGRICULTURAL SOCIETY**

**Premiums on Farms, 1859.**

PREMIUMS are offered for best cultivated farm, mostly devoted to *grain growing;* best grazing and *cheese-dairy farm*; best do. *butter-dairy farm*, not less than 50 acres, exclusive of wood and waste land. Premiums, $50 each; and for best cultivated grain farm, not less than 50 acres, *woodland included*, $30 premium.

Persons desiring to enter their farms will please give notice to the Secretary by the 1st of July, so that the farms can be examined by a committee appointed by the Executive Board. Premium of $50 for best acre of carrots raised by *boys under 18 years of age*, (not less than 600 bushels per acre) Directions furnished by Secretary on application. B. P. JOHNSON, Sec'y.
Agricultural Rooms, Albany, N. Y., May 2, 1859. je2t.

**A BOOK THAT EVERY FARMER SHOULD HAVE.**

*WILL BE PUBLISHED EARLY IN JUNE,*

**Plain and Pleasant Talk about Fruits, Flowers and Farming.**

BY HENRY WARD BEECHER.

1 volume. 12mo. Price $1.25.

Agents wanted, to whom a liberal discount will be given. Copies sent by mail, postage paid, on receipt of the price.
Address DERBY & JACKSON,
June, 1859—2t 119 Nassau street, New York.

**INGERSOLL'S IMPROVED PORTABLE HAY PRESS.**

IS the best and cheapest Press in the country. Farmers will do well to examine ours before purchasing elsewhere. Prices $50 and $75, delivered in New York free of charge, and warranted to give satisfaction.

Also Ingersoll's Improved Horse Hay Fork or Elevator. Price $12. And Ingersoll's Combined Horse Rake and Hay Spreader. This Machine excels in novelty and excellence.

For circulars containing full information, address
FARMERS' MANUFACTURING CO.
Green Point, King's Co., N. Y.

N. B. Farmers visiting New York city are invited to give us a call, as we are but 20 minutes ride from the City Hall. jc—3t*

**AGRICULTURAL AND HORTICULTURAL BOOKS**—A large assortment always on hand, and made a special branch of our trade. Send the money for any thing in the market, and we will mail it free of charge.
June, 1859—2t E. DARROW & BRO., Publishers.

**RUSSIA OR BASS MATTS**—Selected expressly for budding and tying. GUNNY BAGS, TWINES, &c., suitable for Nursery purposes, for sale in lots to suit, by
D. W. MANWARING, Importer,
August, 1858.—1y* 248 Front Street, New York.

**A VIRGINIA FARM FOR SALE.**—I offer 1200 acres of rich and highly improved land, with good buildings, an abundance of marl and wood, on Potomac river, Stafford county, Virginia, for only twelve thousand dollars. Address
May—3t G. B. WALLACE, Fredericksburg, Va.

**PERUVIAN GUANO.**—No. 1 Peruvian Guano, Government brand and weight, direct from Peruvian agents, in quantities to suit purchasers, at the lowest market price.
March, 1859.—5t A. LONGETT, 34 Cliff St., New York.

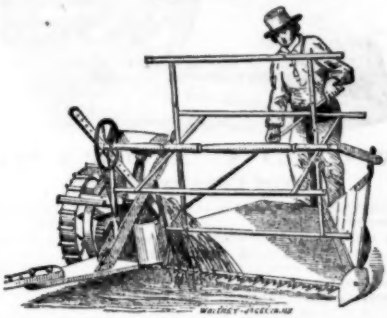
**BLOOD STOCK FOR SALE.**—One two-year-old Colt by "Mariner," out of "Miss Mattie;" two Alderney Bull Calves, one five the other six months old; two pairs "Shanghai Sheep."
my 3t WILLIAM REDMOND, 43 Barclay St., New York.

**MANNY'S COMBINED**

**REAPER AND MOWER,**

**WITH WOOD'S IMPROVEMENT,**

**For the Harvest of 1859.**



THE subscriber begs to inform the public that he continues to manufacture this popular machine, and pledges himself to produce an implement that will fully sustain its former reputation, as the best combined machine yet introduced, and inferior to none, either as a Reaper or Mower.

It has had a steady and increasing popularity from the first, achieving a complete success in the first important trial at Geneva in 1852. It carried off the highest honors at the great National Field Trial at Syracuse in 1857; and amidst all the competition and trials of 1858, came out with more and better established points of excellence than ever before.

The general principles peculiar to this machine, and upon which it is constructed, have proved so successful that there has been no attempt to change them.

The main effort during the last year has been to improve its mechanical construction, to make it stronger and more durable, and sustain its reputation as the leading and most acceptable machine to the largest class of farmers in the country.

Warranted capable of cutting from 10 to 15 acres of grass or grain per day, in a workmanlike manner.

Price of Machine as heretofore, varies according to width of cut, and its adaptation in size and strength to different sections of the country, from $125 to $150, delivered here on the cars.

WALTER A. WOOD,
Manufacturer and Proprietor, Hoosick Falls, N. Y.

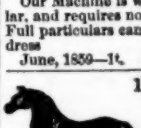
BENNETT GRAY, Brockport.
Wm. HENRY HARMON, Scottsville.
June, 1859—2t Agents for Monroe Co., N. Y

**SEYMOUR & MORGAN'S**

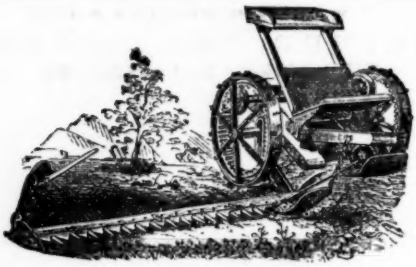
**NEW YORK SELF-RAKING REAPER AND MOWER.**

WE now offer to the Farmers of New York our Self-Raking Reaper and Mower Combined, constructed with reference to its use in this State, and we can now confidently assure the public that our Machine is reliable as a good Mower and Reaper, and has advantages over other machines of raking off the grain better than can be done by hand labor. This is manifestly an important and very necessary combination, which must soon be generally acknowledged. It is but a little time since we were told by our most intelligent Farmers in this section, that Reaping Machines might do well on the Praries of the West, but would never be useful in this State. So objections and doubts will ever be made and entertained in regard to most improvements, which time and a practical knowledge on the subject can alone correct; and we now take this occasion to say that the self-rake will soon be an indespensible attachment to the Reaper, notwithstanding there are many interested and disinterested opinions to the contrary. We cannot believe it probable that in this age of improvement, our intelligent Farmers will continue long to do the severe labor of raking off the grain in an imperfect manner, when it can be well done by the labor of their horses.

Our Machine is warranted to do the work well in every particular, and requires no more than ordinary care to keep it in order. Full particulars can be obtained by sending for a circular. Address SEYMOUR, MORGAN & ALLEN,
June, 1859—1t. Brockport, N. Y.



**10,000 COPIES SOLD.**—THE PRACTICAL HORSE FARRIER, containing the whole of RAREY'S ART, with illustrated instructions: an account of the various Breeds; the Cause, Prevention, and Cure of Diseases; the largest collection of valuable Receipts ever published. Illustrated, &c., &c. Sent free on the receipt of 50 cents in stamps.
June, 1859—3t E. MASH, Publisher, Auburn, N. Y.



## WOOD'S MOWER.

**Patented February 22d, 1859.**

DURING the six years I have been engaged in the manufacture of the Manny Combined Reaper and Mower, I have given much thought and attention to the construction of what I foresaw would be a great want of the Farmers—a lighter and cheaper machine expressly for mowing, than had yet been made.

And now, after the most thorough and repeated experiments and tests in every variety of field, and in all kinds and every condition of grass, I am prepared, with entire confidence, to offer to the farmers and dealers of the United States, the great *desideratum* in this department of Agricultural labor-saving machines —a Mower, superior in its capacity for good work to any hitherto introduced, of easy draft, light, cheap and durable.

This machine I now offer as my latest invention, to meet a special want of farmers, and to place within the reach of all a Mower that for practical working, cheapness and simplicity, will be without a rival.

I build Two-Horse and One-Horse Mowers. The Two-Horse Mower weighs 425 lbs., and cuts a swath four feet wide, (or more if specially ordered.) The One-Horse Mower weighs 30 lbs. less, (395 lbs.,) and cuts a swath three and a half feet wide.

For a more full description of the Mowers, reference is made to my Pamphlets, which will be furnished on application. With each machine will be furnished two extra guards, two extra sections, one wrench and oil can.

Warranted capable of cutting ten acres of grass per day in a workmanlike manner.

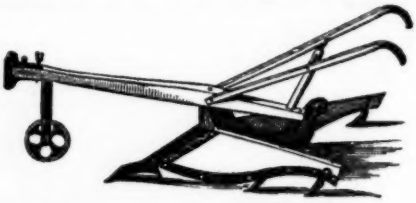
Price of Two-Horse Mower,.....$80
" One-Horse Mower,..... 70

Delivered here on the cars.

I continue as heretofore, and with greater success than at any previous time, the manufacture and sale of "Manny's Patent Combined Reaper and Mower with Wood's Improvement."

WALTER A. WOOD.
Manufacturer and Proprietor, Hoosick Falls, N. Y.

PEASE & EGGLESFON, 84 State St., Albany, Agents for Albany County and vicinity.
BENNETT GRAY, Brockport.
Wm. HENRY HARMON, Scottsville.
June, 1859—2t. Agents for Monroe County. N, Y.



**FARMERS, SAVE YOUR MONEY!**

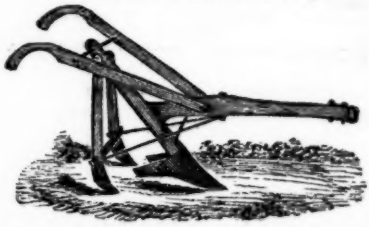
**TRY ONE OF SHARE'S PATENT CULTIVATING,** HOEING AND HILLING MACHINES, price $10, which will save more than twice its cost the first season, and with ordinary care will last years. It is light and easily used with one horse, and will do more cultivating in going between the rows once, than an ordinary cultivator can do in two or even three times, and will hoe and hill any crop planted in hills (the crooked form of the back part of the wings give the hills the desired shape) or drills fast as a horse can walk, and better than men can do it with hand hoes. Price only $10, and warranted—weight 80 pounds. Manufactured by PEASE & EGGLESTON,
85 State St., Albany, N. Y.

Dealers in all kinds of Agricultural Implements, Seeds, &c.
June, 1859—1t.

**AMERICAN CABBAGE SEED**—Of the PREMIUM FLAT DUTCH variety. We can supply Gardeners and the Trade in limited quantities, with the seed of the above finest of all Fall and Winter Cabbages. Warranted to head solid. $3 per pound.
my 2t J. M. THORBURN & CO., 15 John St., New York.

## ROCHESTER AGRICULTURAL WORKS.

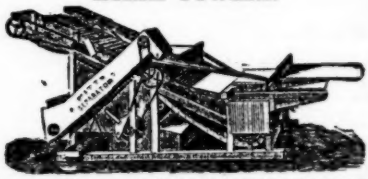
**HYDE & WRIGHT'S PATENT HORSE-HOE OR CULTIVATOR PLOW,**



Designed, and better adapted than any other implement, for hoeing Corn, Broom Corn, Potatoes, Cotton, or any other crop requiring the use of the Horse or Hand-Hoe. It has proved itself the most valuable implement yet invented for the purpose intended. It has been in use in Western New York for the past six years. Its great utility has been demonstrated in the fact that one day to the acre, with a man and horse, is all the expense of cultivating and hoeing a field of corn for the season. If used as directed, hand-hoeing, in nine cases out of ten, may be entirely dispensed with. We have numerous certificates of the most satisfactory character, which we would be happy to show the public.

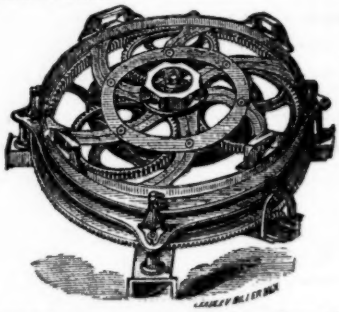
Price, $8; if ground and polished, $8.50. No farmer should be without one. They are having an unlimited sale. Sold at wholesale and retail.

**IMPROVED THRESHING MACHINES AND HORSE POWERS.**



The above cut is a representation of the justly celebrated PITTS MACHINE FOR THRESHING AND CLEANING GRAIN at one operation. It is the best Machine in existence.

The following cut represents an improved, all iron, EIGHT OR TEN HORSE POWER.



As a superior and every way reliable Horse Power, the above stands unrivalled.

We call attention to the fact that we are now manufacturing the above Machines, at Rochester, N. Y., in a more substantial and durable manner than any hitherto built in this city, having all the latest improvements.

We also make Pitts' celebrated DOUBLE PINION EIGHT OR TEN HORSE POWERS.

**ONE HORSE MOWER.**

We offer Stoddard's Mower to the Farmer as preferable to every other Mower. It will cut salt, tame, or prairie grass; will do its work well; does not clog; *will cut as much per hour, with one horse*, as any other Mower *with two horses*. Its draft in cutting is only from 80 to 110 lbs. Cuts 4 ft. 2 inches. Price, $100.

**ROCHESTER CUTTING BOX.**

All who are in want of a Feed Cutter, adapted equally well to the cutting of all kinds of fodder, will find our Cutting Box in all respects to answer their wants. A. GORDON.
May, 1859.—3t 68 South St. Paul street, Rochester, N.Y.

IN PRESS. IN PRESS.

## "COUNTRY LIFE."

A GREAT AGRICULTURAL WORK,

COVERING THE WHOLE GROUND OF

**AGRICULTURE, HORTICULTURE,**

AND

LANDSCAPE GARDENING,

With 225 superb illustrations, designed and engraved expressly for the work, by eminent artists.

**By R. MORRIS COPELAND, Esq.**

SUCH a work as the above has long been needed, combining in one volume a whole Library of Facts, and the experiences of the best Agriculturists in both hemispheres, brought down to the present day, and all arranged in months, so that any cultivator of the soil, be he the proprietor of hundreds of acres or of a single acre, can have before him a Practical Manual, or rather an Encyclopedia, divided into months, showing him at a glance just what he must do in every month in the year, *when* to plow, *when* to plant and *what* to plant, *how* to plow, and *how* to plant, from the smallest flower to the cereals which sustain life. Also the most complete description of the manner of constructing and managing *Hot Houses*, containing a thorough treatise, with full illustrations, on *Rose Culture*, together with descriptions of the principal Flowers, Plants, and Shrubs, which can be cultivated here, and how to cultivate them, and the most elaborate treatise yet published on LANDSCAPE GARDENING, with numerous plans for laying out gardens, or fields, or entire farms, with complete plans and descriptions for draining lands.

Mr. Copeland is well known in his profession; he has made it the enthusiastic study of his life; and probably there is not a man living in this country who is better qualified than he for so great an undertaking. And that he has acquitted himself nobly in this great work which he now offers to the public, we have the testimony of several of our most distinguished Agriculturists, who have examined his proof sheets.

The work will be published about the 20th of May, in one *superb 8vo. vol. of 800 pages, with 225 elegant illustrations*—PRICE THREE DOLLARS.

In order, however, to place so valuable a work (which, in the language of a gentleman of high culture and extensive experience, who has read all the proof sheets, "*contains more and better information than any six books on those subjects,*") within the reach of all, we shall issue an edition on smaller paper and sell for TWO DOLLARS, depending on large sales to compensate us for the large outlay.

We want a few FIRST RATE AGENTS, and only a few. We want those who have had *experience* in selling books of this high order. We will give such a territory sufficiently large to employ them constantly for one year.

All applications should be addressed to the Publishers.

In ordering single copies by mail, please state which edition is wanted. JOHN P. JEWETT & CO.,

May, 1859.—2t 20 Washington St., Boston.

## LANGSTROTH ON THE BEE.

AN INSTRUCTIVE AND FASCINATING BOOK.

**Unequalled by any other Work in any Language!**

A NEW AND PERFECT SYSTEM OF

BEE CULTURE.

**Price..... $1.25.**

Sent by mail, prepaid, on receipt of price. Address

A. O. MOORE & CO.,

Agricultural Book Publishers,

May, 1859.—2t 140 Fulton street, New York.

## FARM DRAINAGE.

A NEW BOOK,

BY HON. H. F. FRENCH, OF NEW HAMPSHIRE.

American Farmers are just awakening to the vital importance of this subject.

HERE IS THE BOOK TO GIVE THEM LIGHT!

**Price..... $1.00.**

SENT BY MAIL, PREPAID, ON RECEIPT OF PRICE. Address

A. O. MOORE & CO.,

Agricultural Book Publishers,

May, 1859.—2t 140 Fulton street, New York.

"EVERY BODY SHOULD HAVE A COPY."

THE

## Rural Annual and Horticultural Directory

FOR 1859.

THIS work was started in 1856, by the publisher of the *Genesee Farmer*. Its great success affords conclusive evidence, not only of its intrinsic merit, but of its adaptability to the wants of the rural population. A new volume, prepared with great care and replete with new and valuable matter, is issued each year. The fourth volume, for 1859, has appeared, and is a book which cannot be too highly recommended—alike beautiful, interesting, and useful. The articles are all written for its pages by men of experience. It is illustrated with seventy-five appropriate and beautiful engravings.

Among its contents may be mentioned able treatises on Underdraining Orchards and Gardens, on the Fruits of the Ohio Valley, on Fruit Culture in the West, on the Cultivation of Fruit Trees in Pots under Glass, on Training Wall and Espalier Trees, on the Cultivation of Bulbous Plants, on the Management of Ducks, Geese, and Swans, on British Breeds of Cattle, on the Cultivation of Ruta Bagas, &c., &c., and a List of Fruits recommended by the American Pomological Society at its last session.

The work will be found invaluable to the Fruit Grower, and useful to every one interested in Rural affairs.

It is furnished at the low price of Twenty-five Cents,—while it contains as much matter as many dollar books. *Every one who owns a rod of ground should have it.* It is sent pre-paid by mail to any address on the receipt of twenty-five cents in coin or postage stamps. Address JOSEPH HARRIS,

Publisher and Proprietor

*Of the Genesee Farmer and Rural Annual,*

Rochester, N. Y.

The back numbers, for 1856, 1857, and 1858, can be furnished at twenty-five cents each, postage paid.

## KETCHUM'S COMBINED HARVESTER.

KETCHUM'S Improved Combined Machine, "Iron Frame," with Reel and adjustable Roller. Cut 4 feet 10 inches..... $130

KETCHUM'S Improved Two Horse Mower, "Iron Frame," with the adjustable Roller to Cutter Bar,.... $110

KETCHUM'S Improved One Horse Mower, Iron Frame,... $ 75

SANFORD'S Portable Farm Mill for Grinding Feed for Stock, Plaster or Bones for Manure,..... $ 80

SANFORD'S Portable Plantation, or Hand Hominy Mill,. $ 20

Machines and Mills shipped without extra charge.

These Machines are simple in construction, have no equal for durability and light draft, are entirely free from all side draft, and have no weight upon the horse's neck.

This Machine, as improved for 1859, was awarded the first premium by the Michigan State Agricultural Society, at its annual Fair in September last, as a Reaper and as a Mower.

The New York State Agricultural Society, at its late Fair, awarded it the first premium as a Combined Grain and Grass Harvester.

Ohio, also, awarded it its best commendation.

Two Horse Machine warranted to cut from 10 to 15 acres of grass or grain per day.

One Horse Machine warranted to cut from 5 to 8 acres of grass per day.

All orders will receive prompt attention.

R. L. HOWARD,

Manufacturer and Proprietor, Buffalo, N. Y

I have for sale pure Hungarian Grass Seed. Price three dollars per bushel.

Emery's One and Two Horse Railroad Powers for sale at manufacturer's prices, adding transportation from Albany.

May, 1859.—3t R. L. HOWARD.

ALBANY TILE WORKS—CORNER CLINTON AVENUE AND KNOX STREET, ALBANY, N. Y.—The subscribers, being the most extensive manufacturers of DRAINING TILE in the United States, have on hand, in large or small quantities, for Land Draining, ROUND, SOLE, and HORSE-SHOE TILE, warranted superior to any made in this country, hard-burned, and over one foot in length. Orders solicited. Price List sent on application.

May, 1859.—6t C. & W. McCAMMON, Albany, N. Y.

SWEET POTATO PLANTS FOR SALE.—Sweet Potato Plants, Nansemond variety, strong, well-rooted plants, forwarded by Express to any point. Per thousand, $2.50; 500, $1.50; 100, 37½ cts. Plants sent with perfect safety 1000 miles. Plants ready for sending out from the 15th of May onward. Address

May—2t EMORY LUCE, Ashtabula, Ohio.

THE

# GENESEE FARMER

## FOR 1859.

## Premiums for the Half Volume.

There are many farmers in every town in the United States and Canada, who are not now taking any agricultural paper. In order to reach this large class, we have concluded to take subscriptions for the coming half volume of the *Genesee Farmer*, commencing with the July and ending with the December number.

**Terms.**—We will send the *Genesee Farmer* for the coming half year—July to December inclusive—single subscribers, 25 cents; five copies for $1, and a copy of our beautiful 25-cent book the *Rural Annual and Horticultural Directory*, prepaid by mail, to the person getting up the club; eight copies for $1.50, and a *Rural Annual*, prepaid by mail, to the person getting up the club; sixteen copies for $3, and a *Rural Annual* and an *extra copy of the Farmer* for a year, or two for the half volume, to the person getting up the club.

### CASH PREMIUMS

**For the Greatest Number of Subscribers.**

We also offer the following Cash Premiums for the greatest number of subscribers for the coming half volume, sent in by the 15th day of October:

1. TWENTY DOLLARS, in Cash, to the person who shall send us the largest number of subscribers, (at the lowest club price of 18¾ cents each,) before the 15th day of October, 1859. (The order with the money must be *received*, not mailed, on or before the 15th of October.)

2. FIFTEEN DOLLARS to the person who shall send us the second highest list, as above.

3. TEN DOLLARS to the person who shall send us the third highest list, as above.

4. NINE DOLLARS to the person who shall send us the fourth highest list, as above.

5. EIGHT DOLLARS to the person who shall send us the fifth highest list, as above.

6. SEVEN DOLLARS to the person who shall send us the sixth highest list, as above.

7. SIX DOLLARS to the person who shall send us the seventh highest list, as above.

8. FIVE DOLLARS to the person who shall send us the eighth highest list, as above.

9. FOUR DOLLARS to the person who shall send us the ninth highest list, as above.

10. THREE DOLLARS to the person who shall send us the tenth highest list, as above.

11. TWO DOLLARS to the person who shall send us the eleventh highest list, as above.

12. ONE DOLLAR to the person who shall send us the twelfth highest list, as above.

The club need not be all at one post office. We will write the names of the subscribers on every paper, and send them to as many different post offices as is desired.

We stereotype each number of the *Farmer*, and the back numbers of the present half volume can be supplied in the club at the same rates as the above (37½ cents for the year).

We cordially invite Postmasters and all friends of agricultural improvement to act as agents for the *Genesee Farmer*. We will cheerfully send them specimen copies, show-bills, &c., if desired.

Money may be sent at our risk.

Address JOSEPH HARRIS,
PUBLISHER AND PROPRIETOR,
May 1, 1859. ROCHESTER, N. Y.

### CONTENTS OF THIS NUMBER.


Progressive Ultimates ..... 169
Summer Fallows for Wheat ..... 170
The Bee Moth. Agriculture in Ohio ..... 172
The Turnip Fly. Prairie Farming in America ..... 173
Lupins for enriching Land. Cement for Roofs ..... 174
Notes for the Month—by S. W ..... 175
Timothy Grass, and the best time for cutting it ..... 176
Cultivation of Turnips. Facts about Mowing Machines ..... 178
Notes from Maine. To destroy Poison Sumac ..... 179
Diseases among Cattle. Plans for Barns, &c. Road Making ..... 180
Culture of Indian Corn. Answers to J. S. Sugar Cane ..... 181
Keeping Hens to produce Eggs in Winter ..... 181
Train Horses to walk. Cheap Paint ..... 181
The Hog—Its History, &c ..... 182
Design for a Country Residence ..... 183
Management of Calves. Underdraining Economically ..... 184
Preserving Sweet Potatoes ..... 184

HORTICULTURAL DEPARTMENT.

Sulphur for Mildew on the Grape. Ringing the Vine ..... 185
Gas Tar for Peach Trees ..... 186
Gooseberry Saw-Fly. Lignite to destroy Insects ..... 187
Sulphur and Lime for Gooseberries. Lime on Apple Trees ..... 187
Birds—Their Usefulness ..... 188
Horticultural Notes for the Month ..... 191
Aloes to destroy Bugs, &c ..... 191
The Apple Tree Borer ..... 192

LADIES' DEPARTMENT.

Original Domestic Receipts ..... 192

EDITOR'S TABLE.

The Weather ..... 192
Items, Notices, &c ..... 193
Inquiries and Answers ..... 194
Notices of Books, Pamphlets, &c ..... 195

REVIEW OF THE MARKETS.

General Remarks ..... 195
Market Reports ..... 195, 196

ILLUSTRATIONS.

The Bee Moth ..... 173
The Turnip Fly ..... 173
Roots of Timothy ..... 176, 177
Suffolk Sow ..... 182
Design for a Country Residence, with Ground Plan ..... 183
Gooseberry Saw-Fly ..... 187
Phœbe-Bird; Barn Owl; Blackbird; House Wren ..... 188
Wren; Chick-a-dee; Creeper; Cat-Bird ..... 189
Cedar or Cherry Bird; Purple Martin ..... 189
Barn Swallow; Sparrow; King-Bird ..... 190
American Robin; Spotted Woodpecker ..... 190
Yellow-Bird; Blue Jay ..... 191
Canary Grass ..... 194



## THE GENESEE FARMER,

A MONTHLY JOURNAL OF

## AGRICULTURE AND HORTICULTURE,

IS PUBLISHED AT ROCHESTER, N. Y.,

By JOSEPH HARRIS.

It is the cheapest agricultural paper in the world, and has attained an unrivalled circulation.

**Terms**—INVARIABLY IN ADVANCE—FIFTY CENTS A YEAR; Five Copies for $2; Eight Copies for $3, together with a *Rural Annual and Horticultural Directory* to the person getting up the club. It is not necessary that the club should be all at one office—we send wherever the members of the club desire.

☞ All friends of rural improvement are respectfully solicited to obtain and forward subscriptions.

Specimen numbers sent *free* to all applicants.

The address of papers can be changed at any time.

Papers are sent to the British Provinces at the same rates as in the United States No extra charge for American postage.

Subscription money may be sent at the risk of the Publisher.

Address JOSEPH HARRIS,
Publisher and Proprietor, Rochester, N. Y.

**Postage.**—The postage on the Farmer, sent to any place in the State of New York, paid quarterly in advance, is three cents a year; to any other place in the United States, six cents a year. We pay the American postage on all papers sent to the Canadas, or any of the other British Provinces.

STEREOTYPED BY LENNOX & WHITE, ROCHESTER, N. Y.